TEAC®

SERVICE MANUAL

TS-F50

Direct-Drive
Full-Automatic Player

TEAC CORPORATION

51032370

Effective: NOVEMBER 1978
TB - 10004

1. GENERAL DESCRIPTION

This service manual contains complete alignment procedures for the TS-F50 (Direct-Drive Full-Automatic Player).
We have tried to keep this information as concise and yet as complete as possible. If you have any questions concerning any of the procedures or find that the information is incomplete or difficult to understand, please feel free to contact the nearest TEAC Factor Service Department or write directly to a TEAC office.
TEAC addresses are printed on the back cover.
NOTE: When ordering replacement parts please refer to the PARTS LIST with this manual.

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2. SPECIFICATIONS

DRIVE SYSTEM

Type	Direct-Drive Full-Automatic Player
Motor	1DC Servo controlled Direct-drive motor 1AC motor for automatic functions
Platter	310mm diameter aluminum
Speed	33-1/3, 45 rpm
Pitch Control	±3.5%
Wow and Flutter	0.04% wrms
Signal to Noise Ratio	53 dB

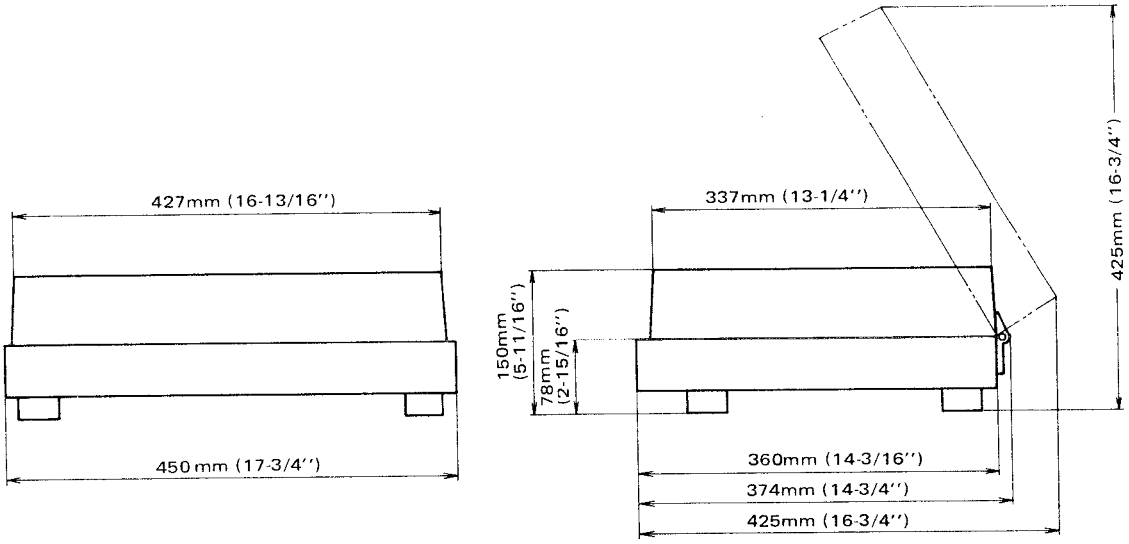
TONE ARM

Type	Static-balanced S-shape tonearm with anti-skating device
Stylus Pressure Range	0–4 g (0–0.14 oz)
Overhang	15 mm
Acceptable Cartridge Weight	4 to 9g (0.14 to 0.32 oz) (when used with 2g stylus pressure)

MISCELLANEOUS

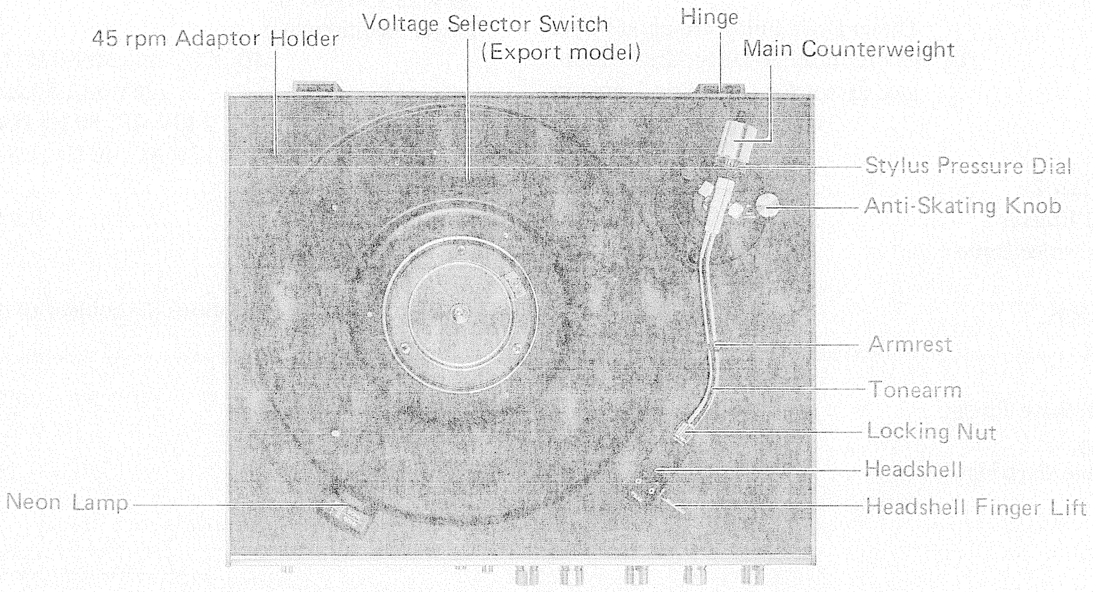
Power Requirements	110/220V AC, 50/60 Hz (Export model) 220V AC, 50 Hz (EUR model) 240V AC, 50 Hz (UK/AUS model) 117V AC, 60 Hz (USA/CND model)
Power Comsumption	10W
Weight	9.3 kg (20-1/2 lbs)

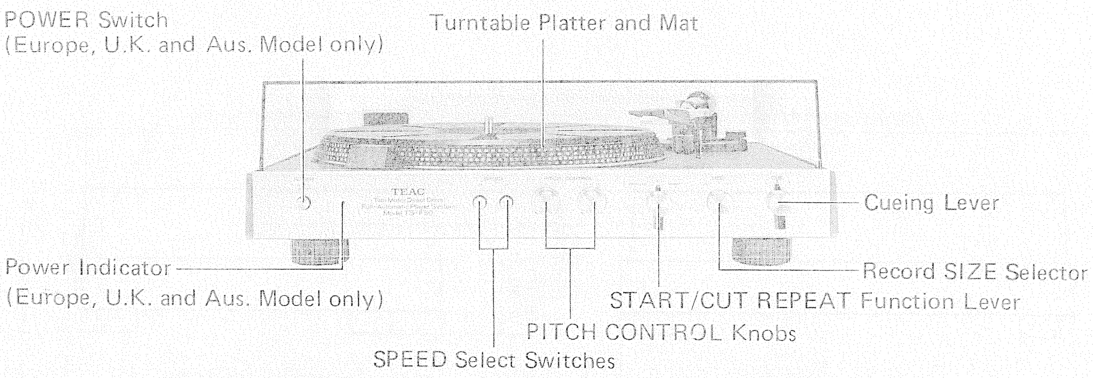
* Features and specifications are subject to change without notice.

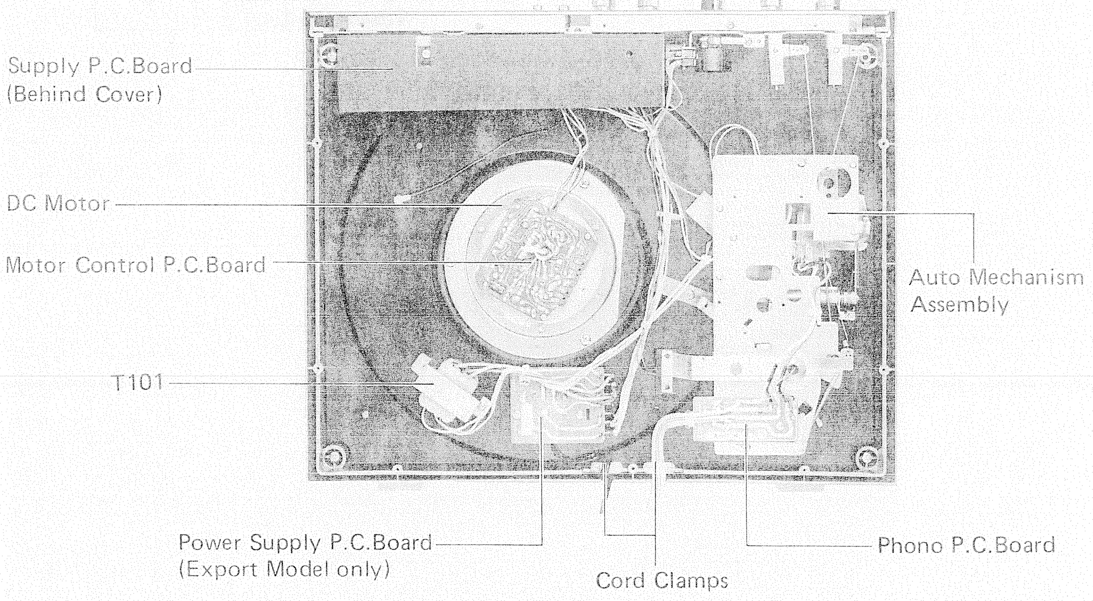

427mm (16-13/16")
450mm (17-3/4")
150mm (5-11/16")
78mm (2-15/16")
337mm (13-1/4")
425mm (16-3/4")
360mm (14-3/16")
374mm (14-3/4")
425mm (16-3/4")

Dimensions

3. PARTS LOCATION


45 rpm Adaptor Holder
Voltage Selector Switch (Export model)
Hinge
Main Counterweight
Stylus Pressure Dial
Anti-Skating Knob
Armrest
Tonearm
Locking Nut
Headshell
Headshell Finger Lift
Neon Lamp


POWER Switch (Europe, U.K. and Aus. Model only)
Turntable Platter and Mat
Cueing Lever
Power Indicator (Europe, U.K. and Aus. Model only)
Record SIZE Selector
START/CUT REPEAT Function Lever
PITCH CONTROL Knobs
SPEED Select Switches


Supply P.C.Board (Behind Cover)
DC Motor
Motor Control P.C.Board
Auto Mechanism Assembly
T101
Power Supply P.C.Board (Export Model only)
Cord Clamps
Phono P.C.Board

4. DISASSEMBLY

4-1. DUST COVER

(1) Open dust cover.

(2) Slide out dust cover in the direction of the arrow (Fig. 4-1), and remove it.

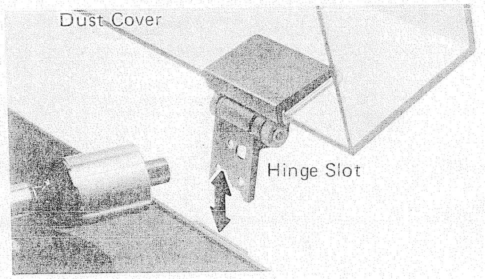


Fig. 4-1 Dust Cover Removal

4-2. HEADSHELL

(1) Rotate the locking nut at the end of tonearm in the direction of the arrow 2.

(2) Gently extract headshell assembly from tonearm in the direction of the arrow 1.

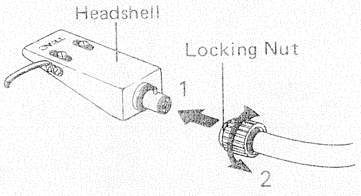


Fig. 4-2 Headshell Removal

4-3 BOTTOM COVER

(1) Remove the rubber and the platter.

(2) Fasten the tonearm to the armrest.

(3) Remove the screws (marked "A") from the bottom cover as shown in Fig. 4-3.

(4) Carefully lift bottom cover upward from the cabinet.

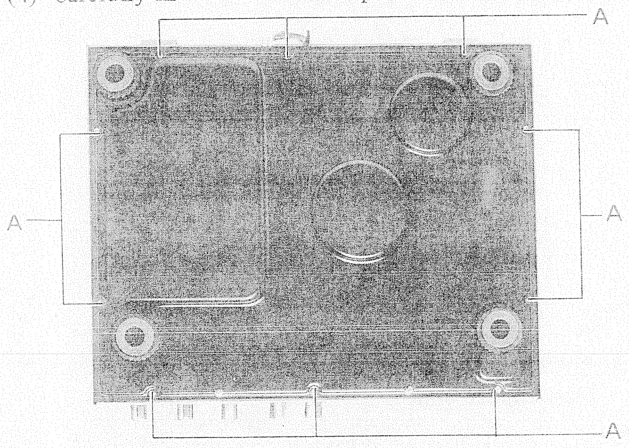


Fig. 4-3 Bottom Cover Removal

4-4 FRONT PANEL

(1) Remove five knobs from the front panel.

(2) Remove five screws (marked "B") from the cabinet.

(3) Carefully pull front panel out from the cabinet in the direction of the arrow as shown in Fig. 4-4.

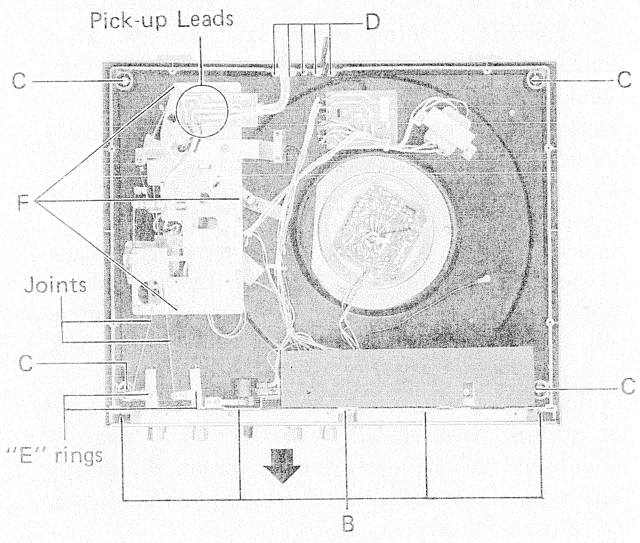


Fig. 4-4 Player Unit Removal

4-5 PLAYER UNIT

(1) Remove four screws (marked "C") and four screws (marked "D") mounting cord clamps from the cabinet as shown in Fig. 4-4.

(2) Player unit will be completely separated from the cabinet.

4-6 AUTOMATIC MECHANISM

(1) Unsolder the pick-up leads from the printed circuit board.

(2) Remove two "E" rings, two joints and three screws (marked "F") as shown in Fig. 4-4.

(3) Lift the mechanism carefully.

(4) All parts mounted on the automatic mechanism chassis can be removed from the cabinet.

4-7 DC MOTOR

(1) Remove the rubber mat and the platter.

(2) Remove three screws (marked "A") holding motor bracket as shown in Fig. 4-5.

(3) Unsolder the motor leads from the printed circuit board.

(4) If you want to remove the motor rotor, remove one screw holding motor support as shown in Fig. 4-5.

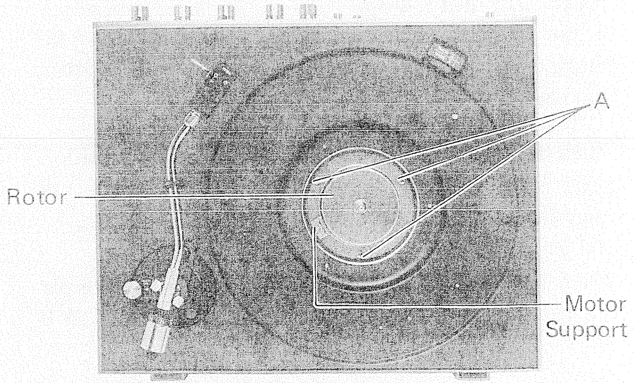


Fig. 4-5 DC Motor Removal

5. AUTOMATIC MECHANISM DESCRIPTION

(1) In the Stop (■) mode, S101, S102, S103 and S105 are OFF and S104, muting switch (S107) are ON. Thus, timing motor is OFF and cartridge output is short circuited.

(2) When the function lever is moved to the START/CUT position, S101 and S102 will be ON, and the timing motor starts rotating. At the same time the main DC motor starts operation.
As it rotates, the starting cam also rotates and the cam releases S103 to turn ON. After the function lever returns to the OFF position, S101 and S102 become OFF but S103 and S108(for U.K. Europe and Aus) are kept ON.

(3) As the starting cam rotates, the crank lever moves and the starting plate will turn. The start return plate on the tip end of the starting plate pushes the pickup plate, which is linked with the tonearm.So the tonearm moves to the platter.

(4) When the pickup plate comes to the position of the select arm, the select arm stops the pickup plate and the start return plate will turn over and remove pressure from the pick-up plate. Now the tonearm has reached the lead-in groove. The lead-in position can be changed by the record size selector. Fig. 5-1 shows the position for "25" records.

(5) The starting plate will be turning, and the arm lifter (which is on the outer edge of the starting plate) will descend as the sloped portion of the starting plate comes under the arm lifter.

(6) Now, the starting cam has made a half revolution, and the cam will turn S104 off, and the cam will open the muting switch. So the timing motor stops rotating and the cartridge will be ON.

(7) At the end of playing, the magnet on the tip end of pickup plate will move near to the S105 reed switch. S105 will turn ON and the timing motor will start rotating. As the starting cam rotates, S104 will be turned ON again so the timing motor keeps rotating.

(8) Now the cranck lever moves in the opposite direction as described in step 3 above, and the tonearm will return to the arm rest. The starting cam finishes another half revolution. As a result, S103 and S108 (for U.K., Europe and Aus.) are turned OFF and timing motor and the DC motor stop.

(9) In the REPEAT position, S101 is kept ON; so the timing motor keeps rotating even after the starting cam has finished a whole revolution.

(10) Manual Reject:
When function lever is set to START/CUT position, S102 is turned ON and the timing motor starts rotating. Operation continues as in step 8.

(11) Manual Play:
When the tonearm is manually moved toward the plater, the pickup plate only moves and the manual plate slides off from the pickup plate and drops as shown in Fig. 5-2. By setting the function lever to START/CUT position, the starting plate together with start/return plate will move as described earlier, but the manual plate will make the start/return plate turn before is pushes the pickup plate as shown in Fig. 5-3. Therefore, the tonearm will not be moved by the start/return plate and will descend on the groove manually selected.

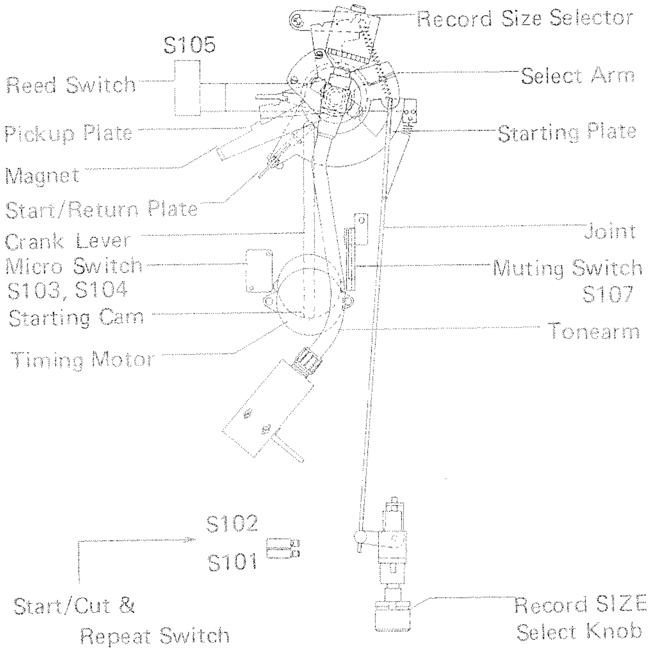

Record Size Selector
S105
Reed Switch
Select Arm
Pickup Plate
Starting Plate
Magnet
Start/Return Plate
Crank Lever
Joint
Micro Switch
S103, S104
Muting Switch
S107
Starting Cam
Tonearm
Timing Motor
S102
S101
Start/Cut &
Repeat Switch
Record SIZE
Select Knob

Fig. 5-1 Automatic Mechanism

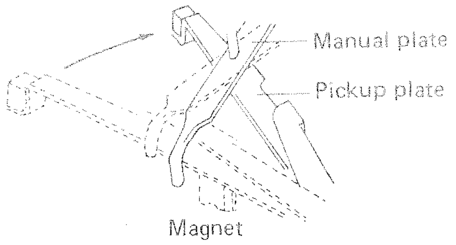

Manual plate
Pickup plate
Magnet

Fig. 5-2 Manual Start

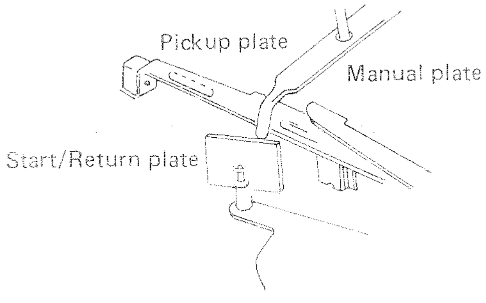

Pickup plate
Manual plate
Start/Return plate

Fig. 5-3 Auto-return

5. AUTOMATIC MECHANISM DESCRIPTION

(1) In the Stop (■) mode, S101, S102, S103 and S105 are OFF and S104, muting switch (S107) are ON. Thus, timing motor is OFF and cartridge output is short circuited.

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As it rotates. the starting cam also rotates and the cam releases S103 to turn ON. After the function lever returns to the OFF position, S101 and S102 become OFF but S103 and S108(for U.K. Europe and Aus) are kept ON.

(3) As the starting cam rotates, the crank lever moves and the starting plate will turn. The start return plate on the tip end of the starting plate pushes the pickup plate, which is linked with the tonearm.So the tonearm moves to the platter.

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(7) At the end of playing, the magnet on the tip end of pickup plate will move near to the S105 reed switch. S105 will turn ON and the timing motor will start rotating. As the starting cam rotates, S104 will be turned ON again so the timing motor keeps rotating.

(8) Now the cranck lever moves in the opposite direction as described in step 3 above, and the tonearm will return to the arm rest. The starting cam finishes another half revolution. As a result, S103 and S108 (for U.K., Europe and Aus.) are turned OFF and timing motor and the DC motor stop.

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When function lever is set to START/CUT position, S102 is turned ON and the timing motor starts rotating. Operation continues as in step 8.

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When the tonearm is manually moved toward the plater, the pickup plate only moves and the manual plate slides off from the pickup plate and drops as shown in Fig. 5-2. By setting the function lever to START/CUT position, the starting plate together with start/return plate will move as described earlier, but the manual plate will make the start/return plate turn before is pushes the pickup plate as shown in Fig. 5-3. Therefore, the tonearm will not be moved by the start/return plate and will descend on the groove manually selected.

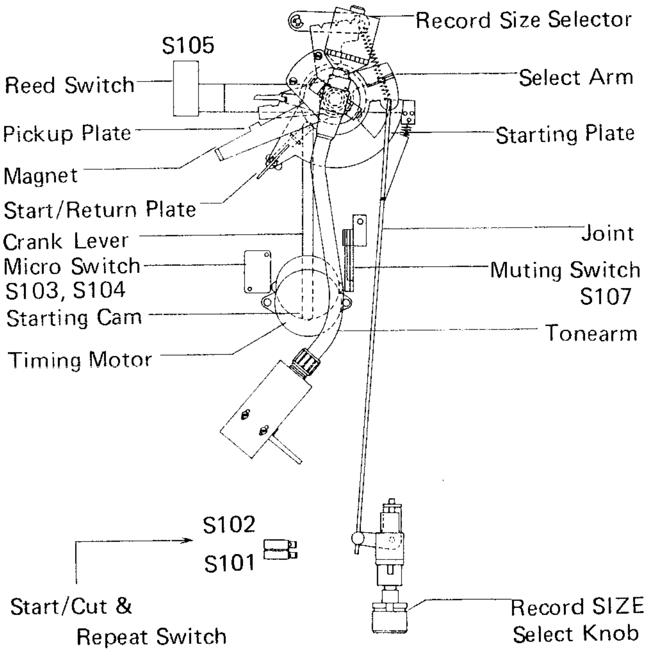
Record Size Selector
S105
Reed Switch
Select Arm
Pickup Plate
Starting Plate
Magnet
Start/Return Plate
Crank Lever
Joint
Micro Switch
S103, S104
Muting Switch
S107
Starting Cam
Tonearm
Timing Motor
S102
S101
Start/Cut &
Repeat Switch
Record SIZE
Select Knob

Fig. 5-1 Automatic Mechanism

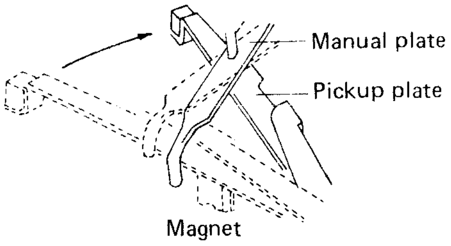
Manual plate
Pickup plate
Magnet

Fig. 5-2 Manual Start

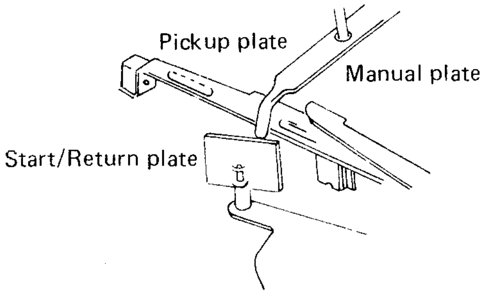
Pickup plate
Manual plate
Start/Return plate

Fig. 5-3 Auto-return

6. ADJUSTMENTS

6-1. STYLUS OVERHANG

(1) Mount the cartridge equipped headshell loosely in the tonearm.

(2) Place overhang gauge (supplied) on the platter so that its notch fits snuggly around the truntable shaft on the side opposite to the arm support.

(3) Move the tone arm toward the center of the platter. Holding the headshell, move the loosely-mounted cartridge back and forth until stylus tip is at a point on an imaginary line drawn between the turntable shaft and the arm support where the line crosses the curved line printed on the gauge.

(4) Taking care not to move the adjusted cartridge, tighten the cartridge fastening screws.

(5) Overhang is the distance "L" between the center turntable shaft and the stylus tip when the tone arm is moved to the position as illustrated. Overhang should be 15mm. Refer to Fig. 6-1.

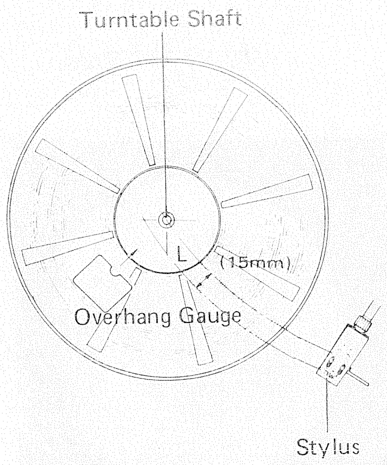

Fig. 6-1 Stylus Overhang Adjustment

6-2 TRACKING FORCE

(1) The tracking force adjustment should be made before playing. The tracking force must be adjusted to the recommended value as shown on the cartridge instruction sheet.

(2) Rotate the main counterweight until the tonearm is balanced evenly.

(3) When the tone arm is balanced evenly turn the stylus pressure dial until the "0" on the dial ring of the counterweight is set over the indication line. The tonearm is now set at zero gram.

(4) Turn the counterweight body slowly until the line comes to the specified tracking force.

6-3 ANTI-SKATING

Match the anti-skating knob setting to the tracking force setting.

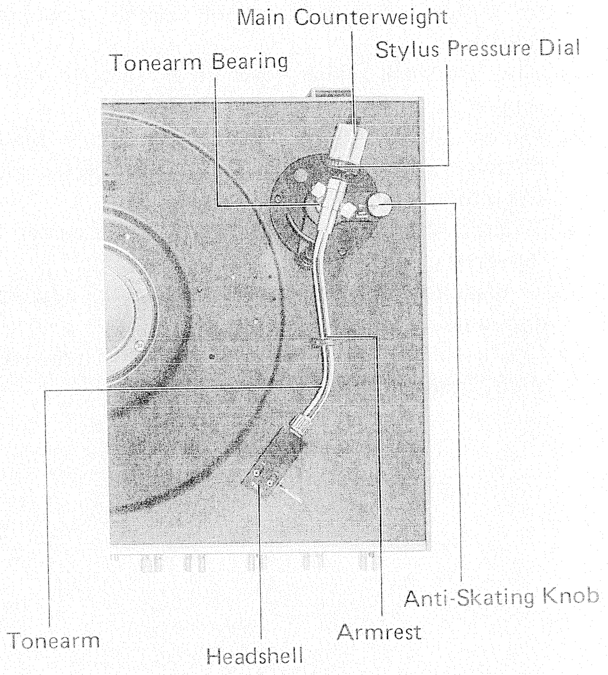

Fig. 6-2 Tracking Force and Anti-Skating Adjustment

6-4 TONEARM LIFTER HEIGHT

(1) Place any test record on the turntable.

(2) To adjust height of stylus tip when using the cue. loosen the setscrew of the arm lifter in Fig. 6-3.

(3) Adjust the height of the arm lifter so that when the arm lifter is set in UP (⊻) position, the distance between the stylus tip and the record is about 8 mm.

(4) After the adjustment, tighten the setscrew securely.

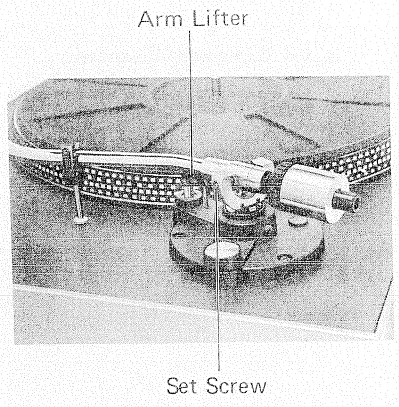

Fig. 6-3 Tonearm Lifter Height Adjustment

6-5. AUTOMATIC MECHANISM

(1) Normally the automatic return mechanism needs no adjustment. However, if you should find the starting or stopping trip-point is not correct, continue as follows.

(2) There's a small rubber cover on the base of the arm support.

(3) Remove this cover and move the tonearm so that the cartridge is near the center shaft. You will see a screw (A) through the hole.

(4) To make the stylus set down closer to the center, turn the screw clockwise.

(5) To make the stylus set down closer to the edge of the disc, turn counterclockwise.

(6) One turn of screw moves the set down position by about 2mm.

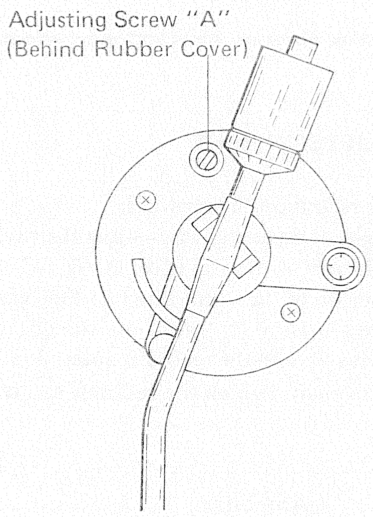

Fig. 6-4 Trip-point Adjustment

6-6. MOTOR SPEED

(1) When the pattern of the stroboscope appears to be moving and the rated speed cannot be obtained by turning the pitch control knob, adjust the speed control semi-fixed resistor (VR1,2) through the hole in the bottom plate.

(2) Set the speed select switches to the speed to be adjusted.

(3) Set the pitch control knob of the desired speed to the center position.

(4) Gradually turn VR1 for 33-1/3 rpm and VR2 for 45 rpm so that the pattern of the stroboscope appears to stop.

Approx. ±6% adjustment is possible.

Note: The DC motor assembly is precision assembled and adjusted at the factory. Never try to adjust and/or repair. Should the motor be defective, replace the entire motor assembly.

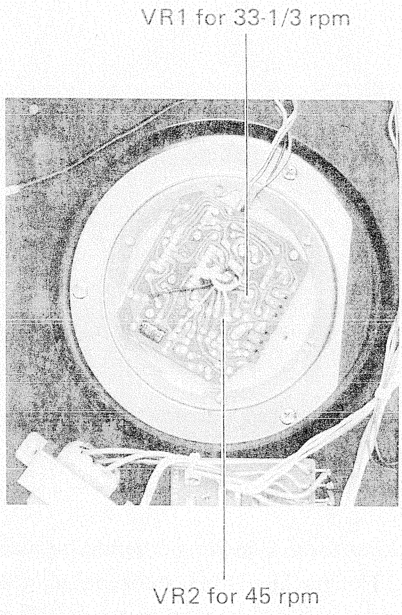

Fig. 6-5 Motor Speed Adjsutment

7. MAINTENANCE AND VOLTAGE CONVERSION

Whenever a Player System is brought in for service or repair, it should be cleaned and lubricated. As maintenance equipment, TEAC TZ-255 Oil Kit is recommended for lubrication, and TEAC TZ-261 Tape Recorder Cleaner Kit for cleaning.

7-1. CLEANING

Do not clean or rub the cabinet with insecticide, spirits, paint thinner or other solvents. When cleaning the unit, please use a soft cloth (after having disconnected the AC line).

7-2. LUBRICATION

Be sure thar you lubricate at least once every 3 months (about every 200 hours).

Remove the turntable platter and lubricate the hole shown in the figure below with one or two drops of a light machine oil. When lubricating, be careful not to allow oil to spill onto other parts. If oil does touch other parts, wipe clean with a soft cloth damped with TEAC TZ-261 cleaner Kit or pure alcohol.

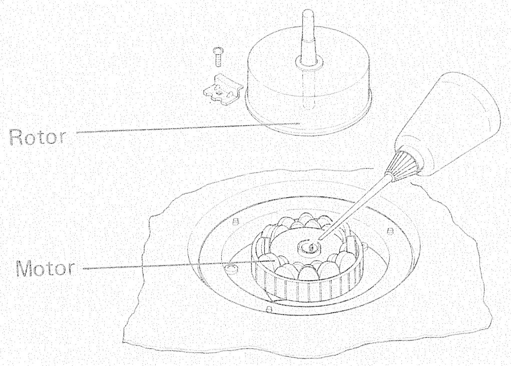

Fig 7-1 Lubrication

7-3. VOLTAGE CONVERSION(Export Model only)

This unit can be set for either 220 or 110 V AC by setting the Voltage Selector rocker switch located under the turntable platter. The side of the rocker switch depressed indicates the AC voltage selected. To change the selected AC voltage:

(1) Remove the rocker switch position retainer by removing one screw.

(2) Depress the other side of the rocker switch to select the AC voltage indicated on the label next to the rocker switch.

(3) Replace the rocker switch position retainer to hold the rocker switch down.

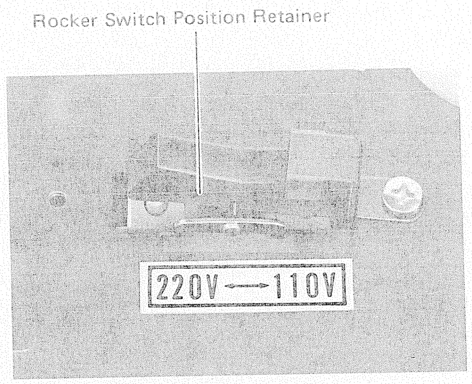

Fig. 7-2 Voltage Conversion Switch

PARTS LIST

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P.C.BOARD PARTS LIST 17
ASSEMBLING HARDWARE CODING LIST 19

PARTS ORDERING INFORMATION

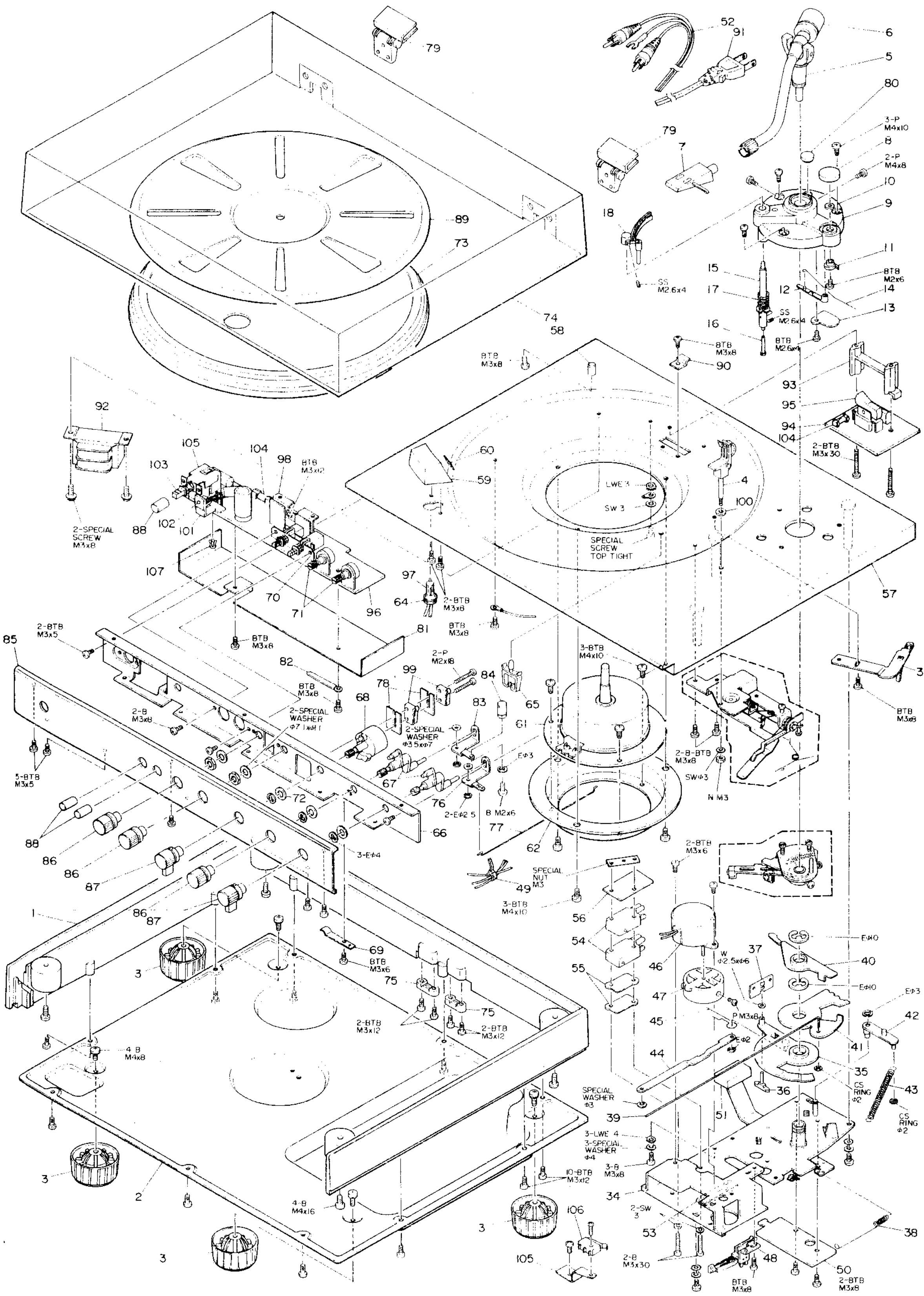
Spare parts are available through your nearest TEAC Authorized Service Center or directly from the TEAC office, the address of which is printed on the back cover. When ordering parts, always include the following information:

1. MODEL
2. REF. NO.
3. PARTS NO.
4. DESCRIPTION
5. UNIT SERIAL NO.
6. MANUAL CODE NO.

NOTICE REGARDING PARTS ORDERS

1. Do not order by REF. NO. only.
2. In some instances, individual minor parts are not available. In this case, the entire assembly, including the part requested, will be sent to you.
3. Parts are identical between different models with the exceptions as coded by the designations in the REMARKS column.
4. P.C. Boards shown viewed from foil side.
5. Parts marked with * require longer delivery time than regular parts.

EXPLODED VIEW AND PARTS LIST

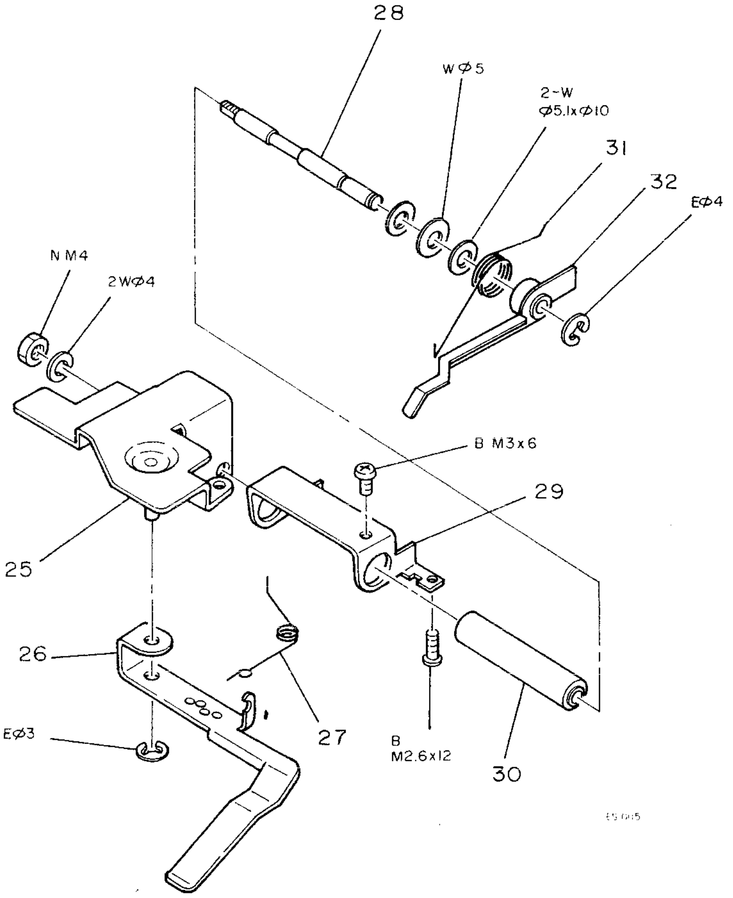

79
52
91
6
5
80
3-P M4x10
8
2-P M4x8
10
9
79
7
89
73
18
SS M2.6x4
15
17
12
11
BTB M2x6
14
13
SS M2.6x4
16
BTB M2.6x4
74
58
BTB M3x8
BTB M3x8
90
93
95
94
104
2-BTB M3x30
92
105
104
98
BTB M3x12
103
60
59
LWE 3
SW 3
4
100
SPECIAL SCREW TOP TIGHT
2-SPECIAL SCREW M3x8
88
102
101
107
97
70
71
96
64
2-BTB M3x8
57
2-BTB M3x5
85
BTB M3x8
81
BTB M3x8
82
BTB M3x8
2-P M2x18
99
84
65
3-BTB M4x10
33
BTB M3x8
78
68
2-SPECIAL WASHER Φ7.1xΦ11
2-B M3x8
2-SPECIAL WASHER Φ3.5xΦ7
83
61
EΦ3
2-8-BTB M3x8
SWΦ3
N M3
5-BTB M3x5
67
72
76
2-EΦ2.5
B M2x6
77
66
3-EΦ4
62
2-BTB M3x6
88
86
86
87
SPECIAL NUT M3
49
3-BTB M4x10
1
86
87
56
54
69
BTB M3x6
75
75
3
EΦ10
37
W Φ2.5xΦ6
40
46
55
47
EΦ10
EΦ3
P M3x8
45
42
2-BTB M3x12
2-BTB M3x12
EΦ2
4-B M4x8
44
41
35
CS RING Φ2
43
CS RING Φ2
SPECIAL WASHER Φ3
36
39
51
3-LWE 4
3-SPECIAL WASHER Φ4
3-B M3x8
10-BTB M3x12
3
2
34
2-SW 3
4-B M4x16
106
3
53
38
2-B M3x30
48
105
50
3
BTB M3x8
2-BTB M3x8
FS003

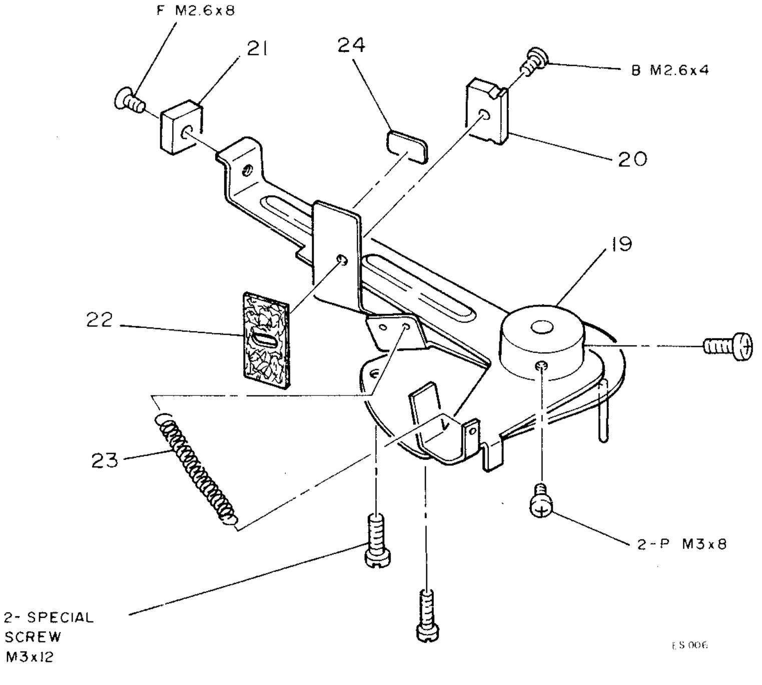
Exploded View Continued on page 15.

REF NO.	PARTS NO.	DESCRIPTION	REMARKS
1	*51982760	Cabinet	
2	*51987250	Board, Bottom	
3	*51985010	Foot	
4	51985970	PU-Rest Assy	
	*51986780	Rest-PU	
	*51985960	Clamp-Arm	Part of 4
5	51987010	Arm, Pick Up	Part of 4
6	51987120	Weight, Main	Part of 5
7	51981050	Headshell	Part of 5
8	*51986540	Knob, IFC	
9	*51987000	Stand, Pick Up	
10	*51985060	Spring-P	
11	*51986520	Cam-IFC	
12	*51986510	Lever-IFC	
13	*51985050	Cover-IFC	
14	*51985040	Spring, Torsion	
15	*51985030	Shaft, Lift	
16	*51985020	Pin-Shank	
17	*51986500	Spring, Push	
18	51985080	Bar, Lifter Assy	
	*51986540	Bar, Lift	Part of 18
	*51985070	Rubber, Lift	Part of 18
19	*51985200	Plate, PU Assy	
20	*51985150	Magnet	
21	*51985140	Magnet	
22	*51985120	Sheet-H	
23	*51985110	Spring, Pull	
24	*51985100	Sheet, Scotch	
25	*51985290	Bracket, Lift	
26	*51985280	Cam,. Lift	
27	*51985270	Spring, Torsion	
28	*51985260	Shaft, Guide	
29	*51985250	Holder, Lift	
30	*51985240	Cylinder	
31	*51985220	Spring, Torsion	
32	*51985210	Lever, Lift Assy	
33	*51985430	Plate, Manual Assy	
34	*51987030	Chassis-FA, Assy	
35	*51985360	Plate-ACT, Assy	
36	*51985310	Shaft, Turn	
37	*51985550	Plate, Turn	
38	*51985530	Spring, Pull	
39	*51985520	Joint	
40	*51985510	Plate-SEL-B, Assy	
41	*51985480	Plate, Select	
42	*51985470	Plate, SET	
43	*51985460	Spring, Pull	
44	*51985450	Lever, Crank	
45	*51985440	Spring, Torsion	
46	51986580	Motor, AC-16, Timing	
47	*51985630	Cam, ACT	
48	51986570	Switch, Leaf	
49	*51981730	Band, N	
50	*51985600	P.C.B. Phono	
51	51985590	Switch, Reed	
52	*51960670	Plug, Cord US1P	
53	*51986560	Cushion-PL	
54	51960650	Switch, Micro	
55	*51985580	Sheet, Switch	
56	*51985570	Sheet	
57	*51987260	Panel	
58	*51980100	Holder, Adaptor	
59	*51985800	Cover, Lamp	
60	*51985790	Lens, Lamp	
61	51986730	Motor, DC; Drive	

REF NO.	PARTS NO.	DESCRIPTION	REMARKS
62	*51986720	Bracket, Motor	
63		– Not Used –	
64	*51986710	Bushing, Lamp	
65	*51985770	Clamp, Wire B	
66	*51987040	Chassis, Front	
67	*51980900	Cam, Select	
68	*51985850	Cam, Start	
69	*51985840	Spring, P	
70	51986740	Switch, Push	
71	51985830	Variable Resistor 16ϕ5k	
72	*51985810	Spring, P	
73	*51987070	Turntable	
74	51982330	Cover, Dust	
75	*51980470	Clamp, Cord	
76	*51985880	Lever, Lift	
77	*51985870	Joint	
78	*51985820	Barrier	
79	*51981660	Hinge	
80	*51985860	Cap	
81	*51985910	Barrier	
82	*51986750	Clamp	
83	*51985900	Lever, Lift	
84	*51985890	Shaft, Lever	
85	*51987060	Panel, Front	GENERAL EXPORT
	*51987050	Panel, Front	All except GENERAL EXPORT
86	51980740	Knob, Select	
87	51980730	Knob, Lift	
88	51980750	Button, Push	
89	51981700	Mat, Turntable	
90	*51985950	Support	GENERAL EXPORT
91	*51960980	Cord, AC Power	GENERAL EXPORT
	*51985930	Cord, AC Power	AUSTRALIA
	*51981680	Cord, AC Power	U.K.
	*51985940	Cord, AC Power	EUROPE
92	*51986790	Transformer, Power	AUSTRALIA
	*51986800	Transformer, Power	EUROPE, U.K.
	*51986810	Transformer, Power	GENERAL EXPORT
93	*51985980	Stay, P.C.B.	GENERAL EXPORT only
94	*51985680	P.C.B., Supply	GENERAL EXPORT only
95	*51960620	Switch, Seesaw	GENERAL EXPORT only
96	*51986690	P.C.B., Supply	
97	*51985660	Lamp, Neon	
98	*51985740	Heat Sink	
99	*51985650	Switch, Micro	
100	*51985920	Spacer	
101	*51980410	Holder, LED	U.K., EUROPE, AUSTRALIA
102	*51981090	LED	U.K., EUROPE, AUSTRALIA
103	*51986680	Switch, Power	U.K.
	*51340110	Switch, Power	EUROPE, AUSTRALIA
104	*51986640	Fuse	U.K.
	*51986650	Fuse	All except U.K.
105	*51985640	Bracket, Switch	All except GENERAL EXPORT
106	*51985650	Switch, Micro	All except GENERAL EXPORT
107	51980400	Special Rivet	All except GENERAL EXPORT
Included Accessories			
	*51961240	Adaptor	
	51961260	Overhang-Gauge	
	*51015980	TS-F50 Owner's Manual	

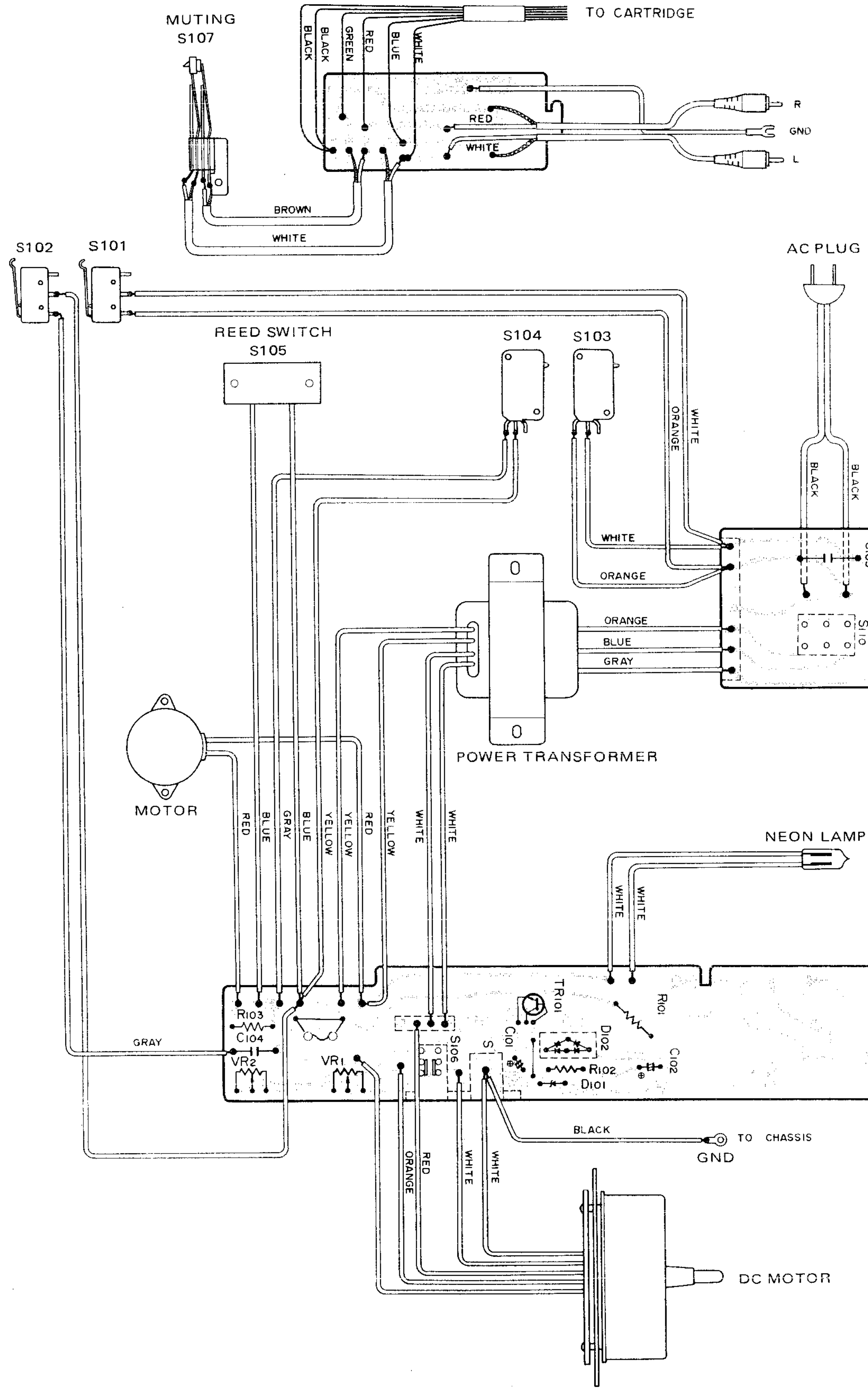
Exploded View Continued from page 12.


28
Wφ5
2-W
φ5.1xφ10
31
32
Eφ4
N M4
2Wφ4
B M3x6
29
25
26
27
Eφ3
B
M2.6x12
30
ES 005


F M2.6x8
21
24
B M2.6x4
20
19
22
23
2-P M3x8
2- SPECIAL
SCREW
M3x12
ES 006

WIRING DIAGRAM

(GENERAL EXPORT MODEL)

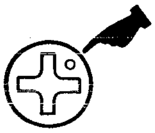

MUTING
S107
TO CARTRIDGE
BLACK
BLACK
GREEN
RED
BLUE
WHITE
RED
WHITE
R
GND
L
BROWN
WHITE
S102
S101
AC PLUG
REED SWITCH
S105
S104
S103
ORANGE
WHITE
BLACK
BLACK
WHITE
ORANGE
C103
S110
800mAT
ORANGE
BLUE
GRAY
POWER TRANSFORMER
MOTOR
RED
BLUE
GRAY
BLUE
YELLOW
YELLOW
RED
YELLOW
WHITE
WHITE
NEON LAMP
WHITE
WHITE
TR101
R101
C101
D102
C102
R102
D101
S106
S
R103
C104
VR2
VR1
GRAY
BLACK
TO CHASSIS
GND
ORANGE
RED
WHITE
WHITE
DC MOTOR

P. C. BOARD SECTION (Parts List)

REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
TRANSISTOR			
TR101	51450870	2SD313-E	
DIODES			
D101	51985720	WZ182	
D102	51985739	SIRBA10	
D103	51981090	GL3AR2	All except GENERAL EXPORT
RESISTORS			
R101	51986610	8.2k ohm 1W	
R102	51812920	2.2k ohm	
R103	51986700	3.3k ohm 1W	All except GENERAL EXPORT
R103	50574580	100 ohm 1/2W	GENERAL EXPORT only
R104	50574580	100 ohm 1/2W	All except GENERAL EXPORT
CAPACITORS			
C101	50554170	100 mfd, 25WV	
C102	50555840	470 mfd, 50WV	
C103	51986600	0.01 mfd, 1000WV	GENERAL EXPORT only
C103	51986590	0.0022 mfd, 1000WV	All except GENERAL EXPORT
C104	51986590	0.0022 mfd, 1000WV	GENERAL EXPORT only
C104	51986660	0.0047 mfd, 450WV	U.K. only
C104	51986670	0.0047 mfd, 450WV	EUR., AUS. only
C105	51986660	0.0047 mfd, 450WV	U.K. only
C105	51986670	0.0047 mfd, 450WV	EUR., AUS. only
VARIABLE RESISTORS			
VR1	51985830	5k ohm	
VR2	51985830	5k ohm	
SWITCHES			
S101	51985650	Micro	
S102	51985650	Micro	
S103	51960650	Micro	
S104	51960650	Micro	
S105	51985590	Reed	
S106	51986740	Push	
S107	51986570	Leaf	
S108	51985650	Micro	All except GENERAL EXPORT
S109	51986680	Power	U.K. only
S109	51340110	Power	EUR., AUS. only
S110	51960620	Rocker	GENERAL EXPORT only
FUSES			
F101	51986640	Fuse, 80mAT	U.K. only
F101	51986650	Fuse, 80mAT	All except U.K.
MISCELLANEOUS			
	51985700	Pin Terminal, 7P	
	51985710	Pin Terminal, 4P	
	51985670	Holder, Fuse	

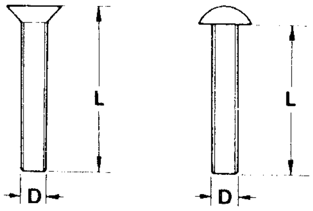
ASSEMBLING HARDWARE CODING LIST

All screws conform to ISO standards, and have crossrecessed heads, unless otherwise noted. ISO screws have the head inscribed with a point as in the figure to the right.

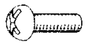
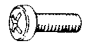
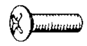
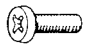
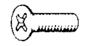
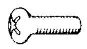
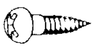
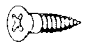
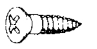
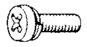
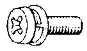
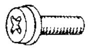
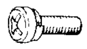
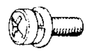


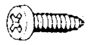
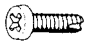
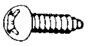
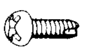
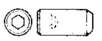
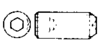
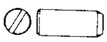
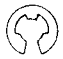
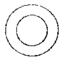
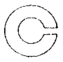
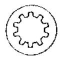
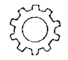
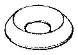
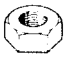
FOR EXAMPLE:

B M 3 x 6
- 6 — Length in mm (L)
- 3 — Diameter in mm (D) *
- M — Metric System
- B — Nomenclature



* Inner dia. for washers and nuts

	Code	Name	Type
MACHINE SCREW	**R**	Round Head Screw	
	P	Pan Head Screw	
	T	Stove Head Screw (Truss)	
	B	Binding Head Screw	
	F	Flat Countersunk Head Screw	
	O	Oval Countersunk Head Screw	
WOOD SCREW	**RW**	Round Head Wood Screw	
	FW	Flat Countersunk Wood Screw	
	OW	Oval Countersunk Wood Screw	
SEMS SCREW	**BSA**	Binding Head SEMS Screw(A Type)	
	BSB	Binding Head SEMS Screw(B Type)	
	BSF	Binding Head SEMS Screw(F Type)	
	PSA	Pan Head SEMS Screw(A Type)	
	PSB	Pan Head SEMS Screw(B Type)	

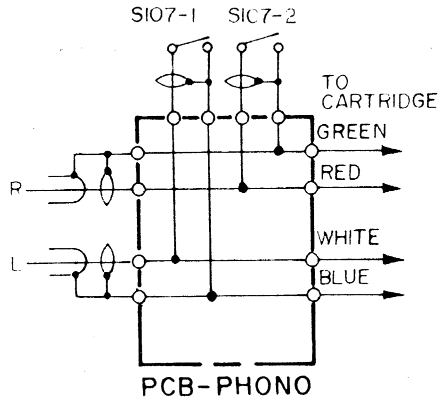
	Code	Name	Type
TAPPING SCREW	**BTA**	Binding Head Tapping Screw(A Type)	
	BTB	Binding Head Tapping Screw(B Type)	
	RTA	Round Head Tapping Screw(A Type)	
	RTB	Round Head Tapping Screw(B Type)	
SETSCREW	**SF**	Hex Socket Setscrew(Flat Point)	
	SC	Hex Socket Setscrew(Cup Point)	
	SS	Slotted Socket Setscrew(Flat Point)	
WASHER	**E**	E-Ring (Retaining Washer)	
	W	Flat Washer (Plain)	
	SW	Lock Washer (Spring)	
	LWI	Lock Washer (Internal Teeth)	
	LWE	Lock Washer (External Teeth)	
	TW	Trim Washer (Countersunk)	
NUT	**N**	Hex Nut	

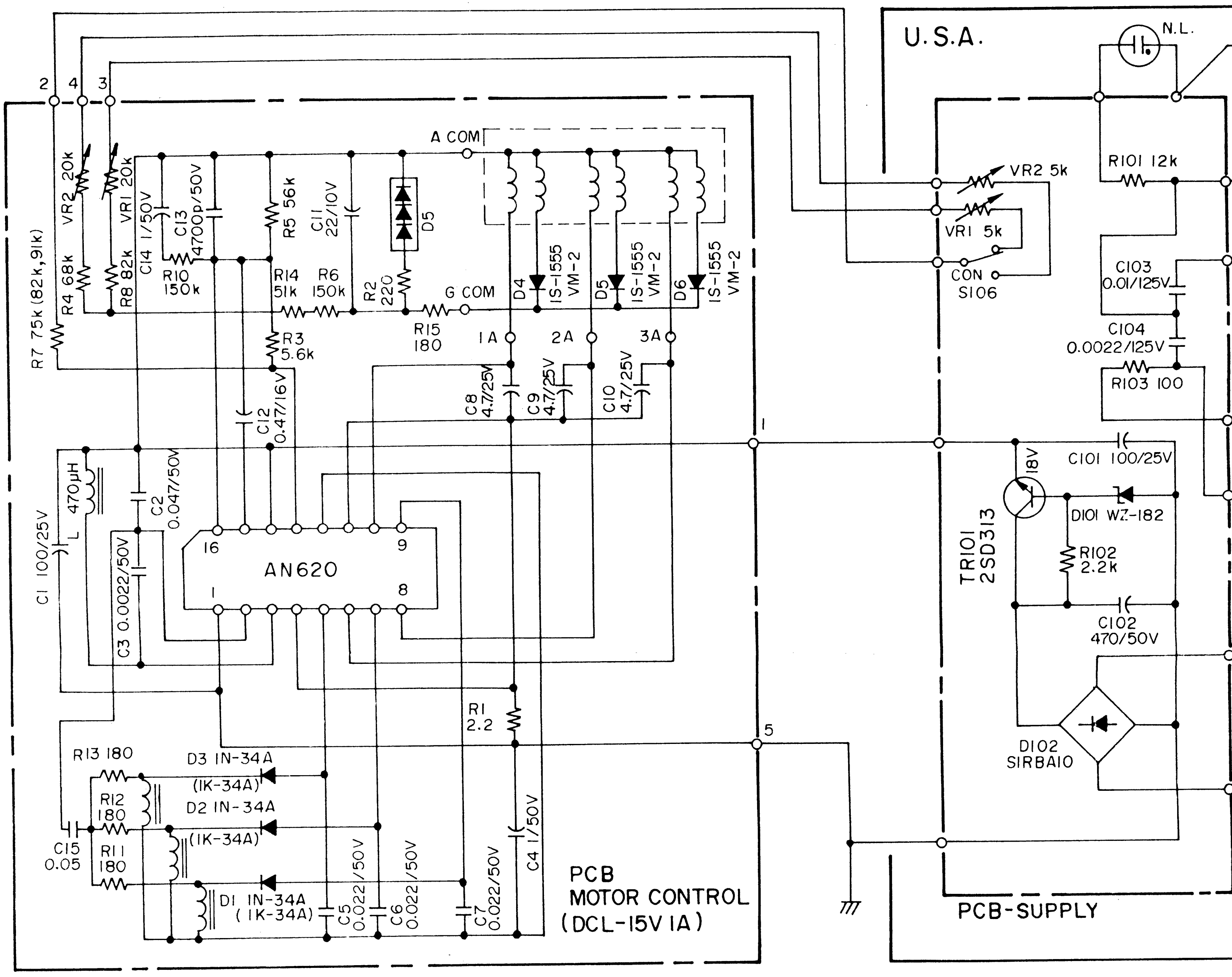
TS-F50 Direct-Drive Full-Automatic Player

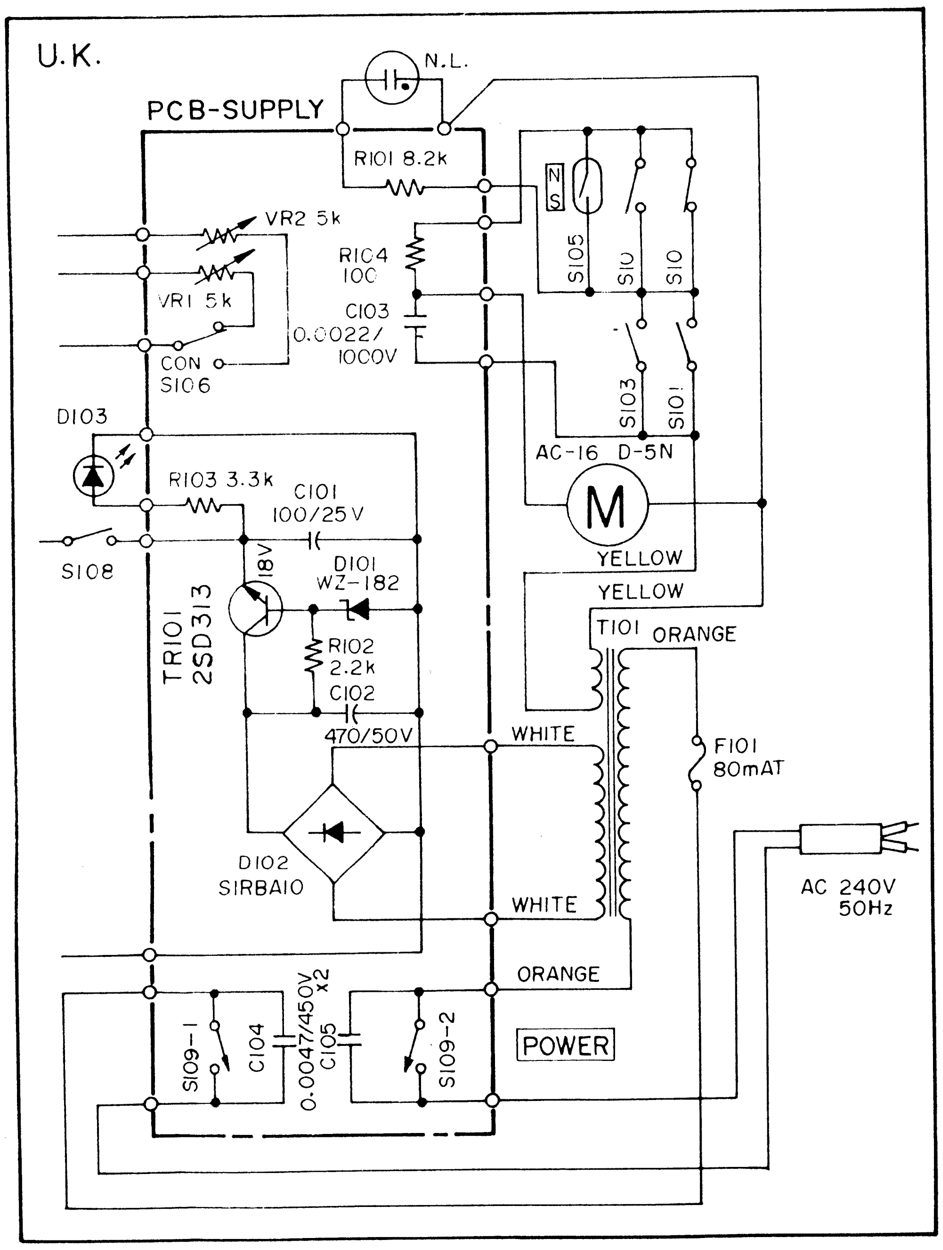
TEAC®

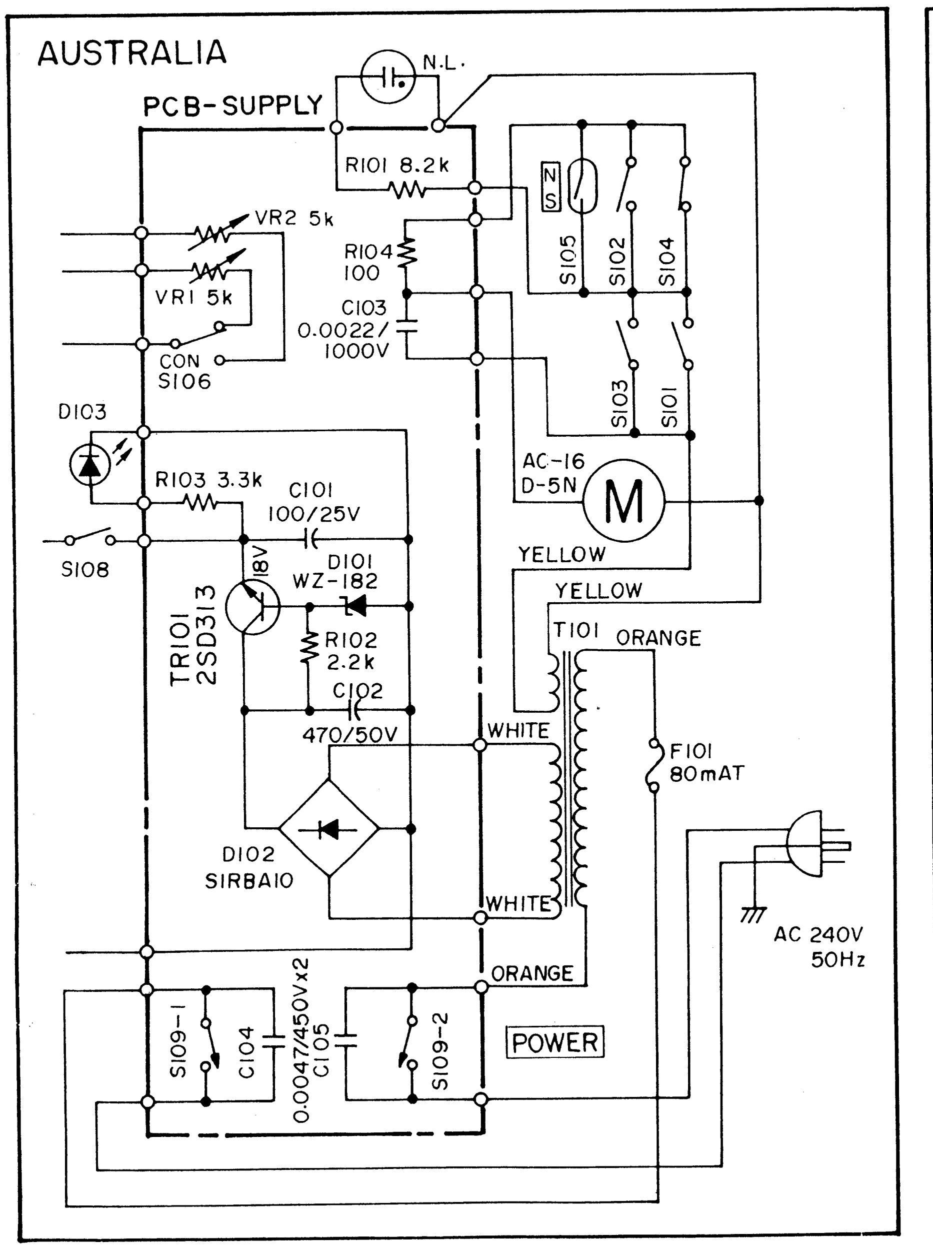
TEAC CORPORATION 3-7-3 NAKA-CHO MUSASHINO TOKYO PHONE (0422) 53-1111
TEAC CORPORATION OF AMERICA 7733 TELEGRAPH ROAD MONTEBELLO CALIFORNIA 90640 PHONE (213) 726-0303
TEAC AUSTRALIA PTY., LTD. 165-167 GLADSTONE STREET SOUTH MELBOURNE VICTORIA 3205 PHONE 699-6000

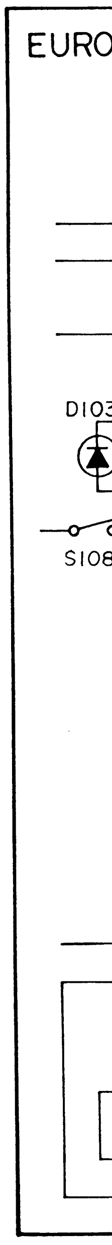
PRINTED IN JAPAN 1278 SK 1.0. D-2993A


S107-1
S107-2
TO CARTRIDGE
GREEN
RED
WHITE
BLUE
R
L
PCB-PHONO


2
4
3
VR2 20k
VR1 20k
R7 75k (82k,91k)
R4 68k
R8 82k
C14 1/50V
C13 4700p/50V
R10 150k
R5 56k
R14 51k
R6 150k
C11 22/10V
D5
R2 220
A COM
G COM
R15 180
R3 5.6k
C12 0.47/16V
D4 IS-1555 VM-2
D5 IS-1555 VM-2
D6 IS-1555 VM-2
1A
2A
3A
C8 4.7/25V
C9 4.7/25V
C10 4.7/25V
L 470μH
C1 100/25V
C2 0.047/50V
C3 0.0022/50V
AN620
16
9
1
8
R1 2.2
R13 180
R12 180
R11 180
C15 0.05
D3 IN-34A (IK-34A)
D2 IN-34A (IK-34A)
D1 IN-34A (IK-34A)
C5 0.022/50V
C6 0.022/50V
C7 0.022/50V
C4 1/50V
PCB MOTOR CONTROL (DCL-15V1A)
1
5
U.S.A.
N.L.
VR2 5k
VR1 5k
CON
S106
R101 12k
C103 0.01/125V
C104 0.0022/125V
R103 100
C101 100/25V
18V
D101 WZ-182
TR101 2SD313
R102 2.2k
C102 470/50V
D102 SIRBA10
PCB-SUPPLY


U.K.
N.L.
PCB-SUPPLY
R101 8.2k
VR2 5k
VR1 5k
CON
S106
R104 100
C103 0.0022/1000V
N S
S105
S10
S10
S103
S101
D103
R103 3.3k
C101 100/25V
S108
18V
D101 WZ-182
TR101 2SD313
R102 2.2k
C102 470/50V
AC-16 D-5N
M
YELLOW
YELLOW
T101
ORANGE
F101 80mAT
WHITE
WHITE
D102 SIRBA10
AC 240V 50Hz
ORANGE
S109-1
C104
0.0047/450V x2
C105
S109-2
POWER

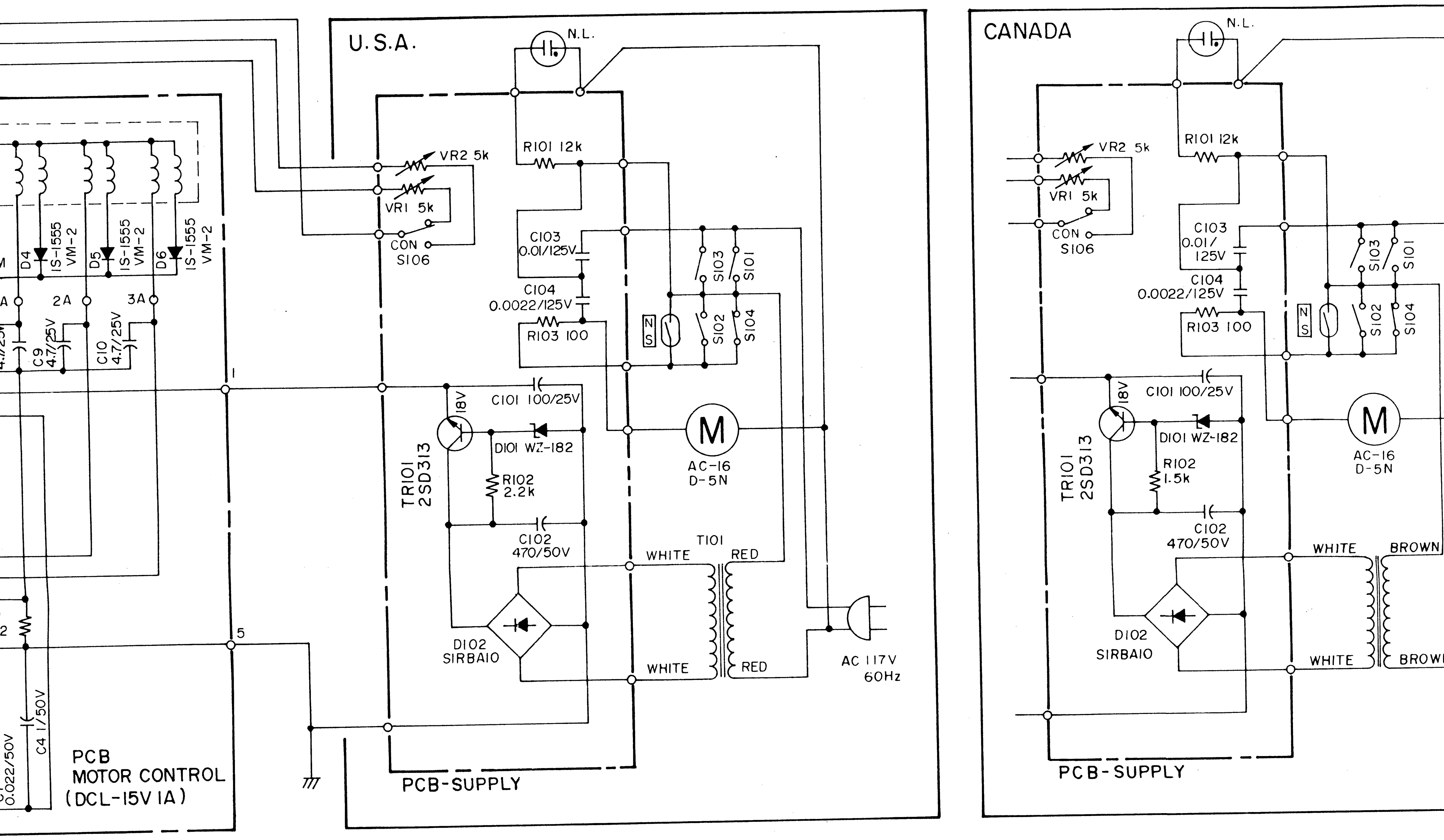

AUSTRALIA
N.L.
PCB-SUPPLY
R101 8.2k
VR2 5k
VR1 5k
CON
S106
R104 100
C103 0.0022/1000V
N S
S105
S102
S104
S103
S101
D103
R103 3.3k
C101 100/25V
S108
18V
D101 WZ-182
TR101 2SD313
R102 2.2k
C102 470/50V
AC-16 D-5N
M
YELLOW
YELLOW
T101
ORANGE
F101 80mAT
WHITE
WHITE
D102 SIRBA10
AC 240V 50Hz
ORANGE
S109-1
C104
0.0047/450V x2
C105
S109-2
POWER

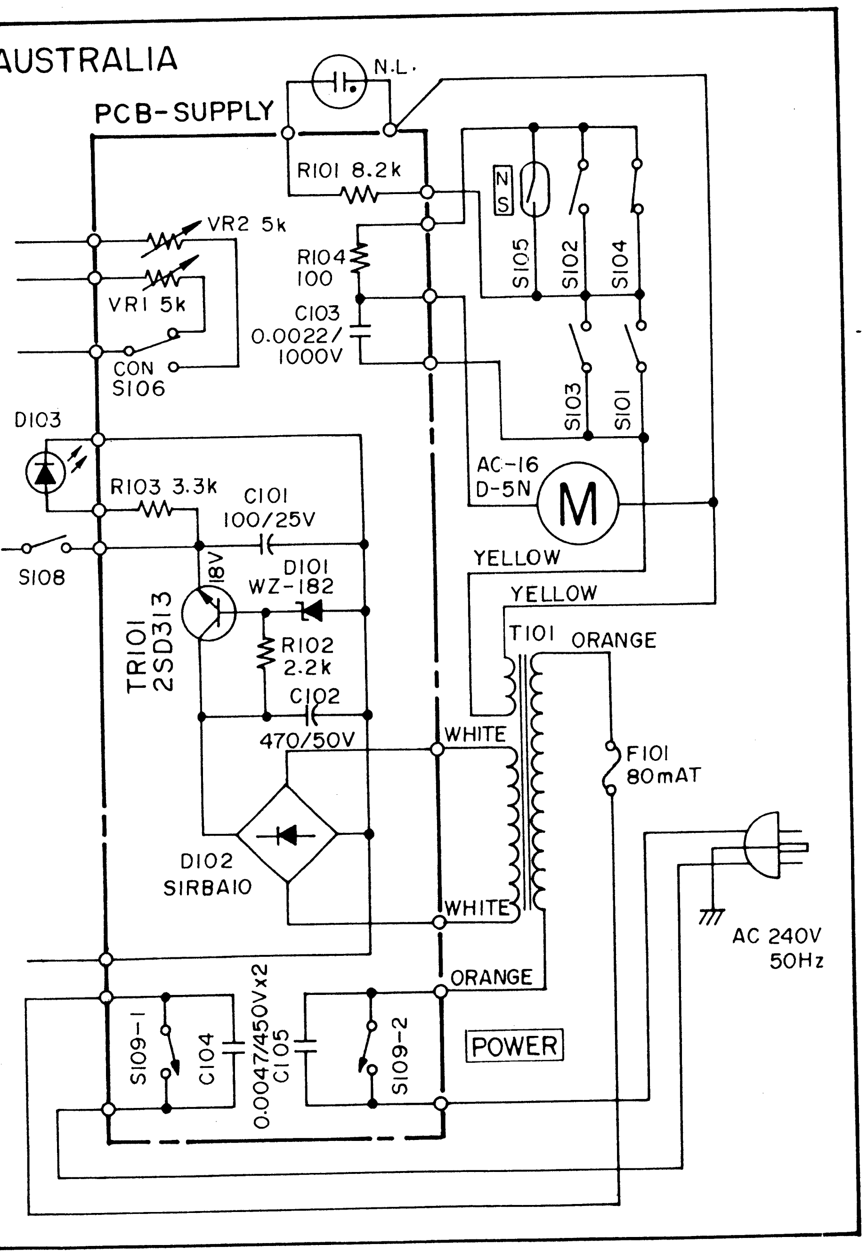

EURO
D103
S108

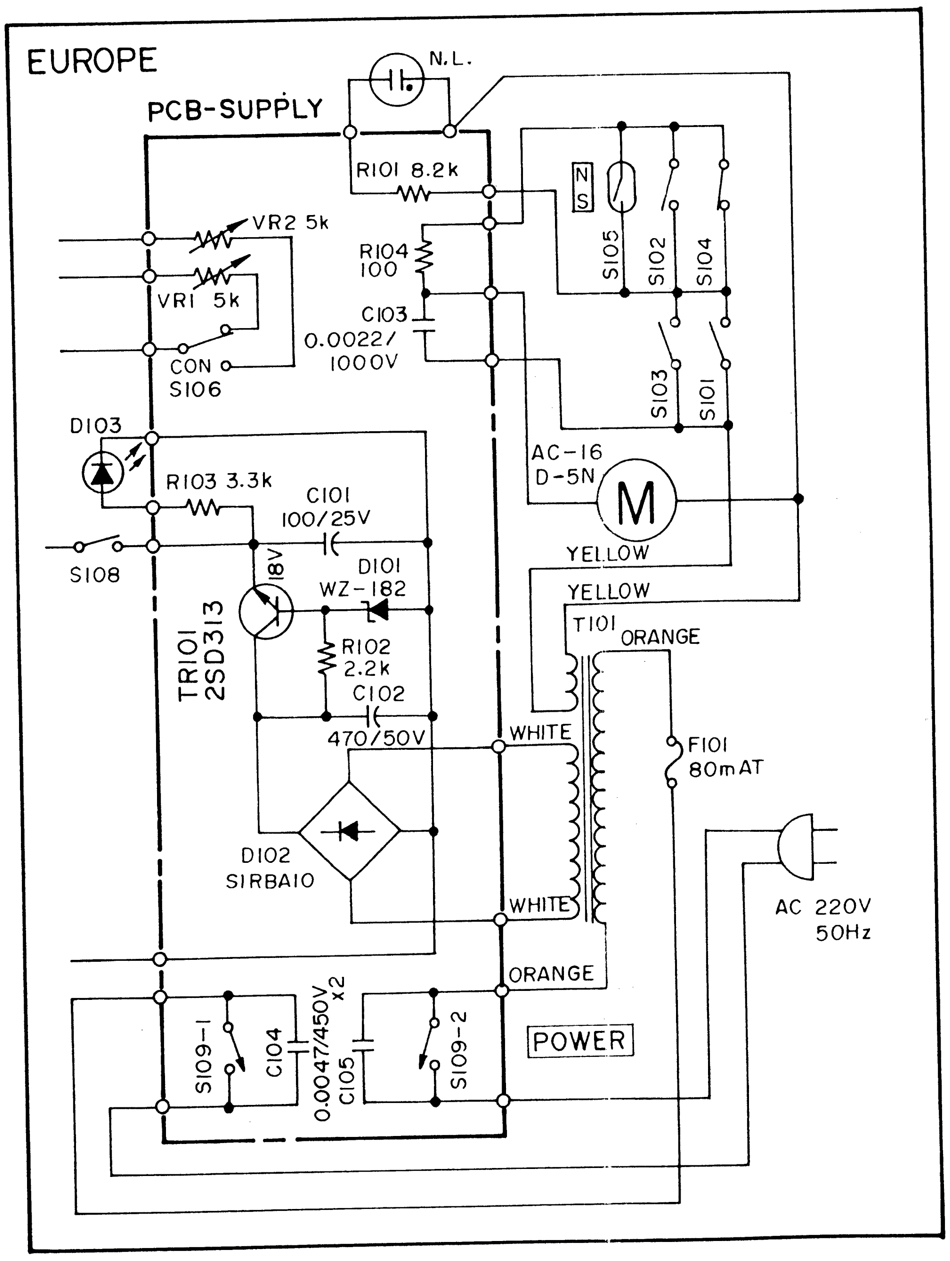
NOTES: 1) SPEED SELECTOR S106 SHOWS 33 1/3 rpm

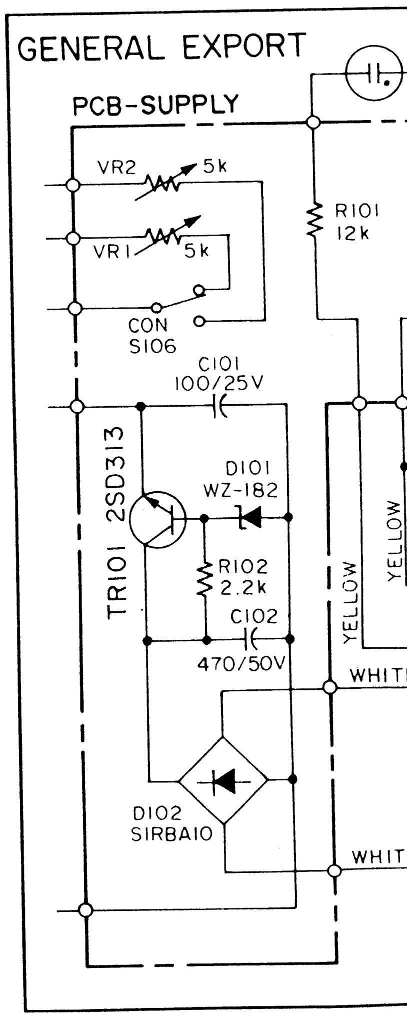
2) SPEED ADJUSTING 33 1/3 rpm WITH VR1 45rpm WITH VR2

S101 ~ S105 POWER SWITCH AND PROGRAM SWITCH FOR LEAD-IN AND AUTO-RETURN (U.S.A., CAN
PROGRAM SWITCH FOR LEAD-IN AND AUTO-RETURN (EXCEPT U.S.A., CANADA)
S106 SPEED SELECT SWITCH
S107 MUTING SWITCH


D4
IS-1555
VM-2
D5
IS-1555
VM-2
D6
IS-1555
VM-2
2A
3A
C9
4.7/25V
C10
4.7/25V
1
5
C4 1/50V
0.022/50V
PCB
MOTOR CONTROL
(DCL-15V1A)
U.S.A.
N.L.
VR2 5k
VR1 5k
CON
S106
R101 12k
C103
0.01/125V
C104
0.0022/125V
R103 100
S103
S101
S102
S104
N
S
C101 100/25V
18V
TR101
2SD313
D101 WZ-182
R102
2.2k
C102
470/50V
M
AC-16
D-5N
T101
WHITE
RED
WHITE
RED
D102
SIRBA10
AC 117V
60Hz
PCB-SUPPLY
CANADA
N.L.
VR2 5k
VR1 5k
CON
S106
R101 12k
C103
0.01/
125V
C104
0.0022/125V
R103 100
N
S
S103
S101
S102
S104
C101 100/25V
18V
TR101
2SD313
D101 WZ-182
R102
1.5k
C102
470/50V
M
AC-16
D-5N
WHITE
BROWN
WHITE
BROWN
D102
SIRBA10
PCB-SUPPLY


AUSTRALIA
PCB-SUPPLY
N.L.
R101 8.2k
R104
100
C103
0.0022/
1000V
N
S
S105
S102
S104
S103
S101
VR2 5k
VR1 5k
CON
S106
D103
R103 3.3k
C101
100/25V
S108
18V
D101
WZ-182
TR101
2SD313
R102
2.2k
C102
470/50V
AC-16
D-5N
M
YELLOW
YELLOW
T101
ORANGE
WHITE
WHITE
F101
80mAT
D102
SIRBA10
AC 240V
50Hz
ORANGE
S109-1
C104
0.0047/450Vx2
C105
S109-2
POWER


EUROPE
N.L.
PCB-SUPPLY
R101 8.2k
N
S
S105
S102
S104
VR2 5k
VR1 5k
R104
100
C103
0.0022/
1000V
CON
S106
S103
S101
D103
R103 3.3k
C101
100/25V
S108
18V
D101
WZ-182
TR101
2SD313
R102
2.2k
C102
470/50V
AC-16
D-5N
M
YELLOW
YELLOW
T101
ORANGE
WHITE
F101
80mAT
D102
SIRBA10
WHITE
AC 220V
50Hz
ORANGE
S109-1
C104
0.0047/450V
x2
C105
S109-2
POWER

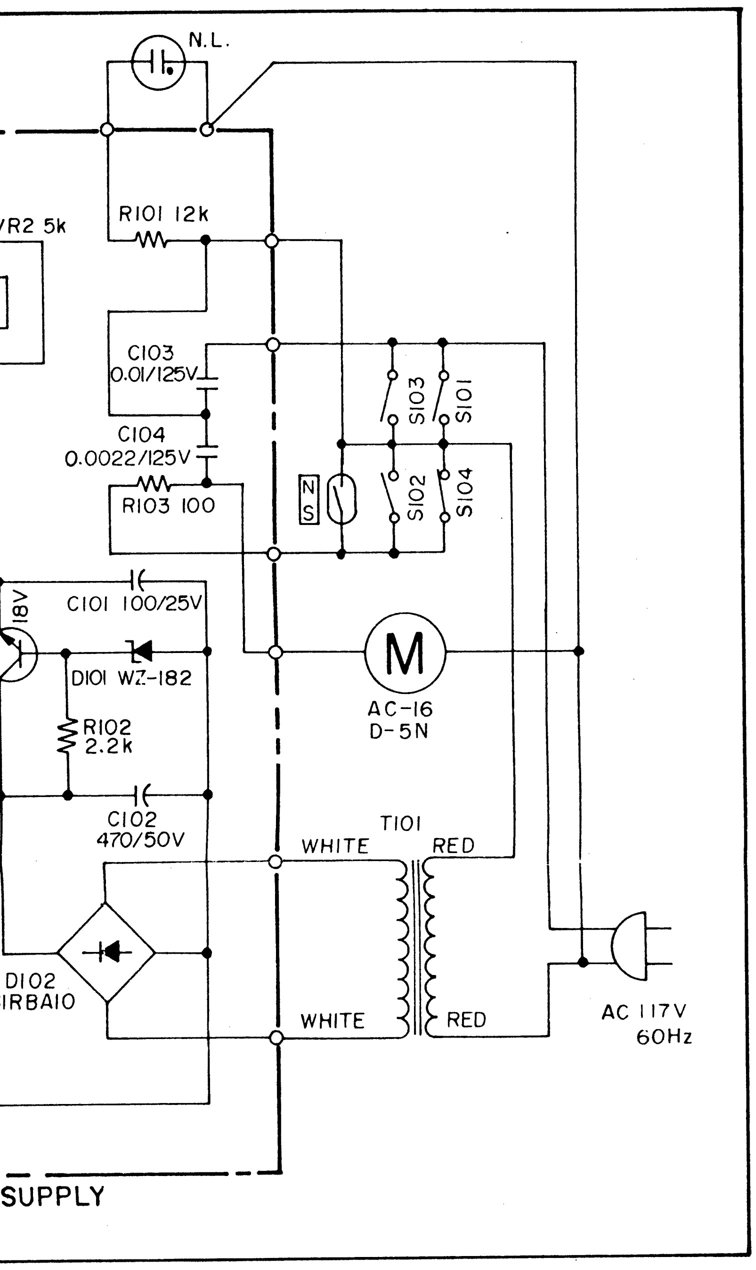

GENERAL EXPORT
PCB-SUPPLY
VR2
5k
VR1
5k
R101
12k
CON
S106
C101
100/25V
TR101 2SD313
D101
WZ-182
R102
2.2k
C102
470/50V
YELLOW
YELLOW
WHIT
D102
SIRBA10
WHIT

NOTES
- ALL RESISTORS ARE ¼ W
  RESISTOR VALUES ARE IN
- ALL CAPACITOR VALUES A

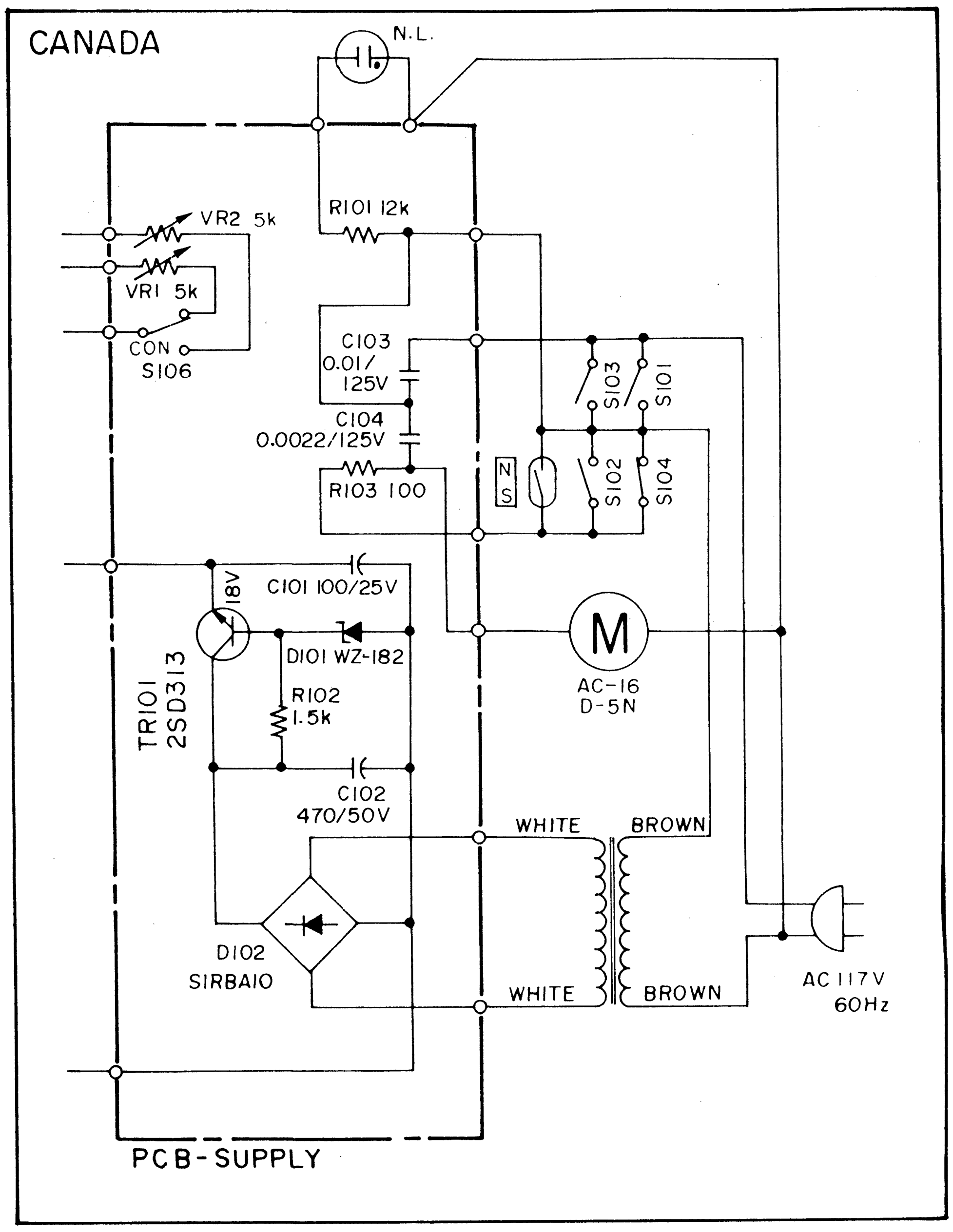
6	
5	
4	
3	
2	
1	I
REVISION	D

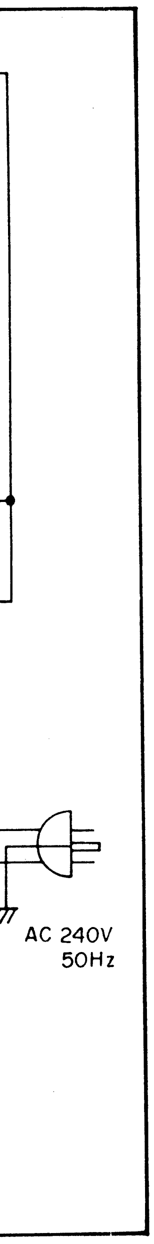
~ S105 POWER SWITCH AND PROGRAM SWITCH FOR LEAD-IN AND AUTO-RETURN (U.S.A., CANADA)
PROGRAM SWITCH FOR LEAD-IN AND AUTO-RETURN (EXCEPT U.S.A., CANADA)
S106 SPEED SELECT SWITCH
S107 MUTING SWITCH

S108 POWER SWITCH FOR D.D MOTOR (EXCEPT U.S.A., CANADA)
S109 POWER SWITCH (EXCEPT U.S.A., CANADA)

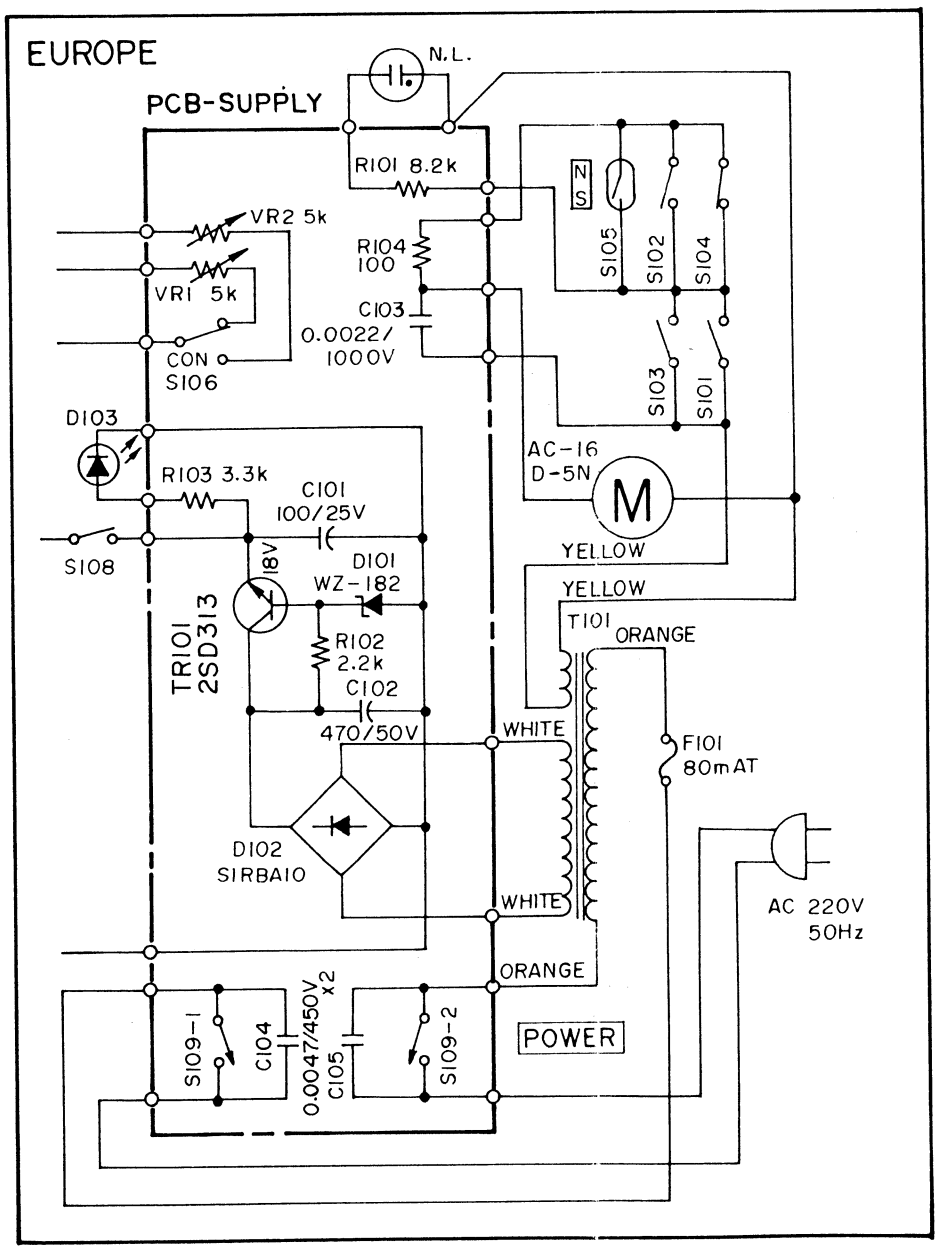

N.L.
VR2 5k
R101 12k
C103 0.01/125V
C104 0.0022/125V
R103 100
S103
S101
S102
S104
N S
18V
C101 100/25V
D101 WZ-182
R102 2.2k
M
AC-16 D-5N
C102 470/50V
T101
WHITE
RED
D102 SIRBA10
WHITE
RED
AC 117V 60Hz
SUPPLY

CANADA

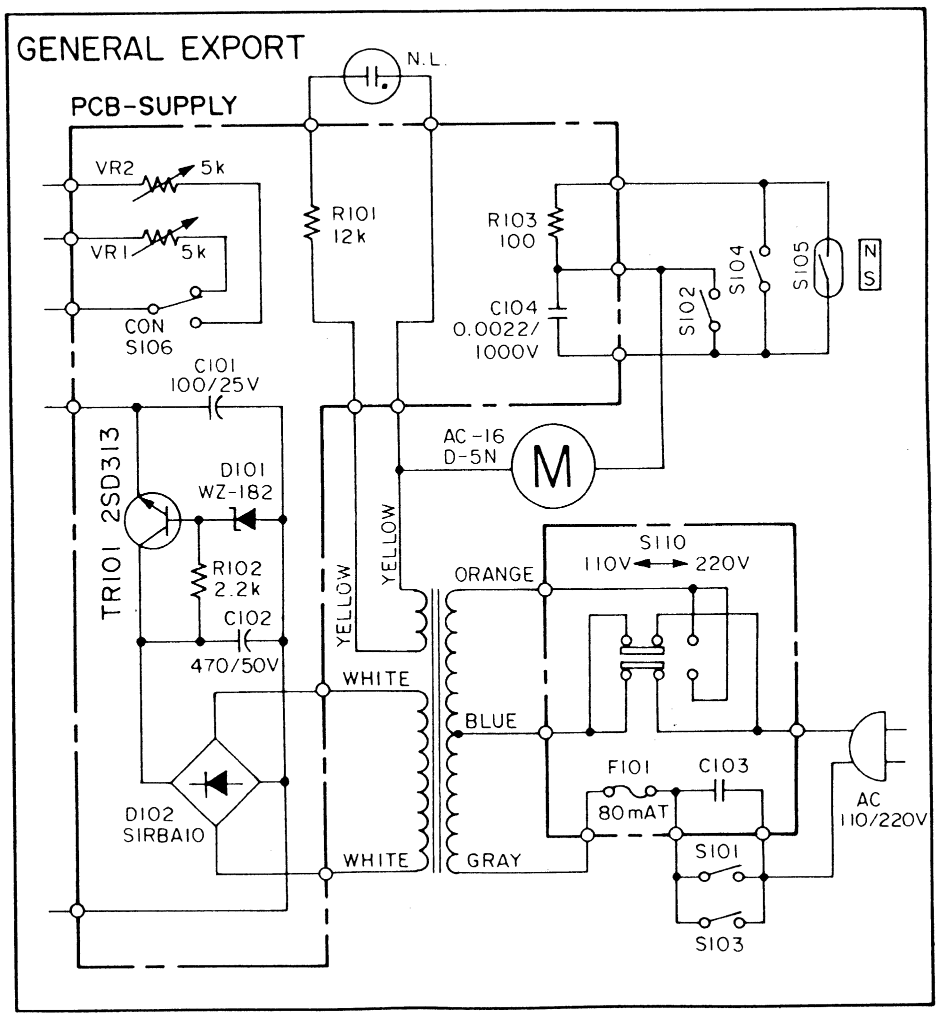

N.L.
VR2 5k
VR1 5k
CON
S106
R101 12k
C103 0.01/125V
C104 0.0022/125V
R103 100
S103
S101
N S
S102
S104
18V
C101 100/25V
D101 WZ-182
TR101 2SD313
R102 1.5k
M
AC-16 D-5N
C102 470/50V
WHITE
BROWN
D102 SIRBA10
WHITE
BROWN
AC 117V 60Hz
PCB-SUPPLY


AC 240V 50Hz

EUROPE


N.L.
PCB-SUPPLY
R101 8.2k
N S
S105
S102
S104
R104 100
C103 0.0022/1000V
VR2 5k
VR1 5k
CON
S106
S103
S101
D103
R103 3.3k
C101 100/25V
AC-16 D-5N
M
S108
18V
D101 WZ-182
YELLOW
YELLOW
T101
ORANGE
TR101 2SD313
R102 2.2k
C102 470/50V
WHITE
F101 80mAT
D102 SIRBA10
WHITE
AC 220V 50Hz
ORANGE
S109-1
C104
0.0047/450V x2
C105
S109-2
POWER

GENERAL EXPORT


N.L.
PCB-SUPPLY
VR2 5k
VR1 5k
CON
S106
R101 12k
R103 100
C104 0.0022/1000V
S102
S104
S105
N S
C101 100/25V
AC-16 D-5N
M
TR101 2SD313
D101 WZ-182
R102 2.2k
C102 470/50V
YELLOW
YELLOW
ORANGE
S110
110V ↔ 220V
WHITE
BLUE
F101
C103
80mAT
AC 110/220V
D102 SIRBA10
WHITE
GRAY
S101
S103

NOTES

- ALL RESISTORS ARE ¼ WATT, 5%, UNLESS MARKED OTHERWISE. RESISTOR VALUES ARE IN OHMS (k = 1,000 OHMS, M = 1,000,000 OHMS).
- ALL CAPACITOR VALUES ARE IN MICROFARADS (p = PICOFARADS).

AUTO-RETURN (U.S.A.,CANADA)
EXCEPT U.S.A., CANADA)

S108 POWER SWITCH FOR D.D MOTOR (EXCEPT U.S.A., CANADA)
S109 POWER SWITCH (EXCEPT U.S.A., CANADA)

S-240

DIRECT-DRIVE
FULL-AUTOMATIC PLAYER

MODEL NO **TS-F50**

SHEET NO

TEAC CORPORATION

6		
5		
4		
3		
2		
1	11 78	
REVISION	DATE	CHANGE NO